

CRITTALL
METAL WINDOWS



CRITTALL

METAL WINDOWS

CRITTALL
MANUFACTURING CO. LTD.
OF BRAINTREE, ENGLAND

210 HIGH HOLBORN
LONDON, W.C.I

No. 50
FEBRUARY
1929



CRITTALL METAL WINDOWS

We have endeavoured in this catalogue to give in concise form full information of the complete range of Standard Windows which we manufacture.

They may be classified roughly as:

Standard Metal Windows

Opening Outwards

Opening Inwards

Standard French Doors

Standard Fenestra Sashes

While we have endeavoured, from analysis of architectural and building requirements, to produce standardized types of Metal Windows for most kinds of buildings, we realize that there are cases where standardization is neither desirable nor economically possible.

It is impossible in this small space to give particulars of our specially made casements such as are required for banks, hospitals, and other large buildings, and therefore, in this book we illustrate only those products which the constant demand has enabled us to standardize, and of which stocks are held to ensure speedy delivery.

CRITTALL METAL WINDOWS DEPOTS



SIDCUP DEPOT

In addition to Offices and Showrooms in most important centres in the country, Assembly Shops and Depots for Crittall Standard Metal Windows are now in operation at Manchester, Leicester, Bristol, and Sidcup. Large stocks are carried from which deliveries are made by road direct to building sites.



MANCHESTER DEPOT

CRITTALL METAL WINDOWS

Head Office:

THE CRITTALL MANUFACTURING CO. LTD.
210 HIGH HOLBORN
W.C.1

Assembly Shops and Depots

MANCHESTER: Talbot Road, Stretford
LEICESTER: Evington Valley Road
SIDCUP: Cray Road
BRISTOL: Brislington

The Depot system, by which delivery is effected by lorry direct to building sites, minimizes damage and delay in transit, and while relieving customers of the trouble of collecting and returning packing, provides a centre in each locality from which a more intimate service is put at the disposal of our clients.

Branch Offices

GLASGOW: 28 Royal Exchange Square
NEWCASTLE: 50 Grainger Street
LIVERPOOL: 222 Royal Liver Building
SOUTHAMPTON: 12 High Street
CARDIFF: 7 Edward Terrace
BIRMINGHAM: 61-65 New Street
LEEDS: Cabinet Chambers, Basinghall Street

Every one of our depots and branch offices is so staffed as to give our customers all the technical service previously available only at Works or Head Office.

Works:

BRAINTREE, WITHAM, MALDON, AND SILVER
END

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STANDARD METAL WINDOWS

INTRODUCTION

Since our last Catalogue of Standard Products was issued in October 1926, we have instituted many important developments in the manufacture of Standard Metal Windows, full details of which will be found in the following pages.

All Standard Metal Windows are now supplied with Forged Gunmetal Fittings for which there is no extra charge.

We have brought out an entirely new range of metal windows in the units of which there are glazing bars only above the eye-level, allowing a clear view through the whole of the lower half. These are known as types AA and BB, and replace the types previously known as A and B.

There are also many other new types introduced to make the range even more comprehensive.

We can now supply all Standard Metal Windows and French Doors in wood surrounds of a heavier pattern and improved quality. Bays and Composite Windows are now obtainable made up with Standard Metal Windows in single units, with wood corner posts, mullions and transomes.

As a complement to the folding Standard French Doors we now stock single side-hung doors of similar patterns, and a range of fixed fanlights for use above both folding and side-hung types.

By the use of specially rolled sections the construction of the inward opening Standard Metal Windows has been greatly improved.

STANDARD METAL WINDOWS

VENTILATORS OUTWARD OPENING

SPECIFICATION

NOTE: Windows are complete with all the necessary fittings and hinges, adjusted ready for use.

CONSTRUCTION. The frames are made of rolled steel bars, the corners being welded. The opening frame is of a specially heavy section. The Fenestra system is used for interlacing the Tee Glazing Bars, which are prepared to glaze from outside. (It should be noted that Glazing Bars may be omitted if desired.)

OPENING LIGHTS. All Opening Lights are hinged at side or top to open outwards. Side-hung types are made either hand. The hinges, of solid rolled steel sections, power-riveted to the frame, are bored to fit pins of phosphor-bronze which have been accurately machined.

(For Inward Opening types of the same size see pages 43-45.)

CLEANING HINGES. Projecting Hinges, giving a space of about $4\frac{1}{2}$ " between the fixed and opening frames when open, to permit cleaning from inside, are provided when ordered, without extra charge.

FITTINGS.

FORGED GUNMETAL Handle with night-ventilating notches engaging with drawn gunmetal striking-plate.

FORGED GUNMETAL Peg Stay of channel section engaging with tapered Peg power-riveted to the frame.

Pressed Steel Handle Plate with stop and Stay Bracket are power-riveted to the face of the opening frame.

Non-projecting Sliding Stays can be provided if desired, but windows so fitted are not held in stock.

Night Ventilators (F Type) hung on extruded gunmetal hinge and fitted with drop down stay.

Detachable curtain rod brackets of pressed steel are supplied when ordered without extra charge.

All necessary fixing screws or lugs provided.

FINISH. Painted two coats zinc oxide.

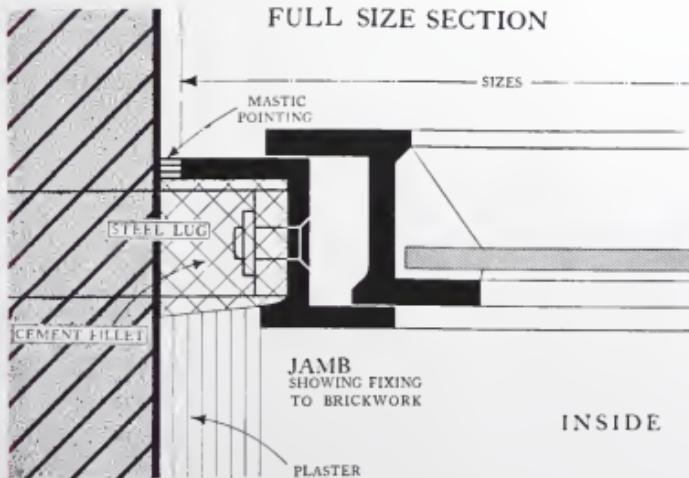
WE DO NOT ENAMEL OUR WINDOWS

STANDARD METAL WINDOWS



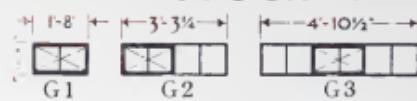
TYPE CxF

FULL SIZE SECTION

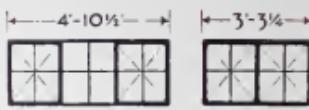


STANDARD METAL WINDOWS

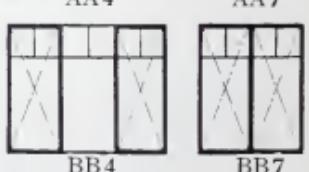
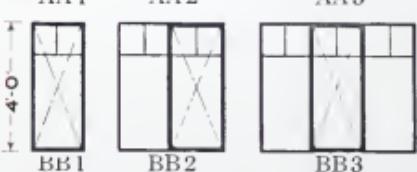
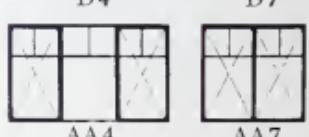
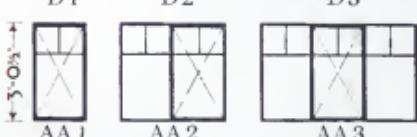
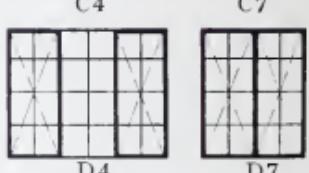
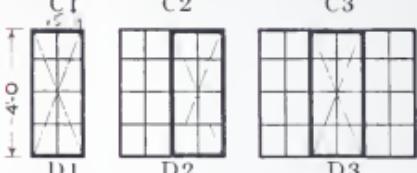
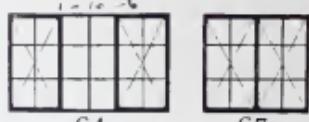
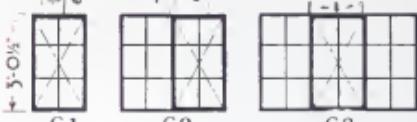
STOCK SIZES: UNITS



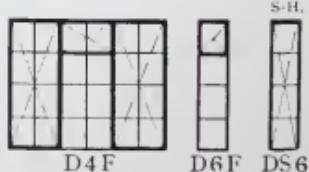
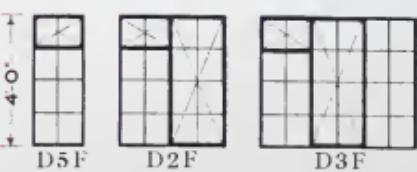
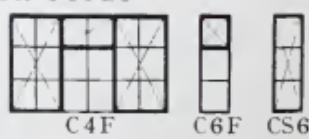
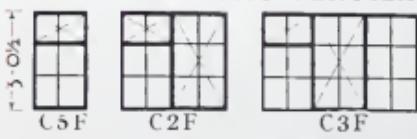
TOP HUNG TYPES



SIDE HUNG TYPES



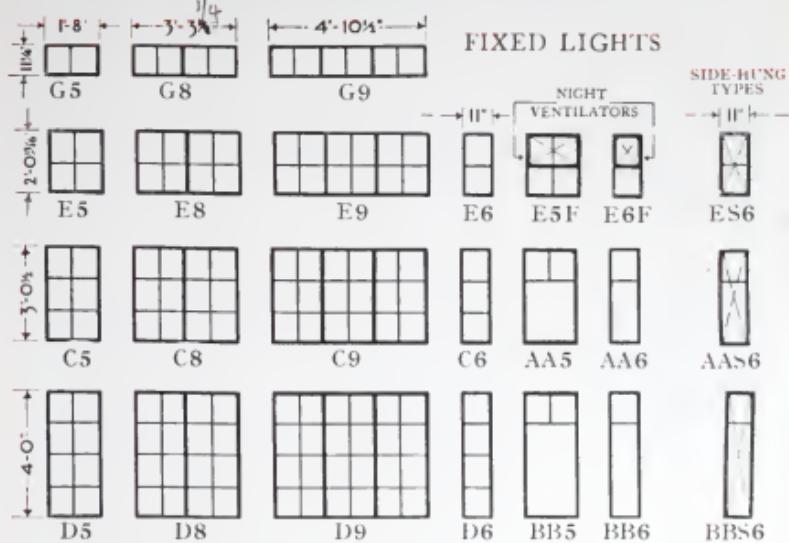
NIGHT VENTILATOR TYPES



These units can be coupled to form composite windows,
examples of which are shown on pages 13 and 14.

STANDARD METAL WINDOWS

STOCK SIZES: UNITS



NOTES

Opening portions are indicated by diagonal dotted lines.

E types are also made with ventilators side hung (types ES 1, ES 2, ES 3, etc.).

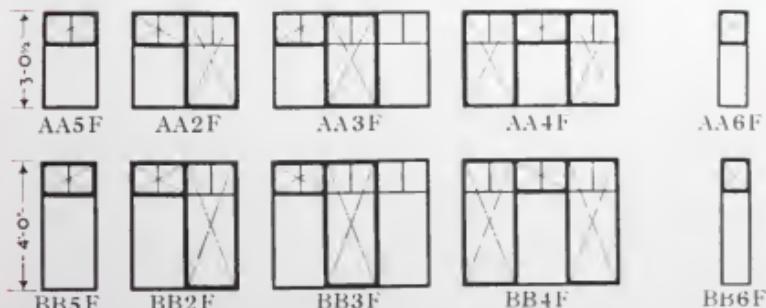
G types are top-hung only.

Projecting hinges to all side-hung types if required.

Glass sizes for all types are given on pages 30-32

All types can be supplied without glazing bars ('N' types: NC 1, ND 2, etc.), or with wider frames (see p. 40), or complete in wood surrounds, over-all sizes of which are given on pages 47, 58 and 59.

NIGHT VENTILATOR TYPES



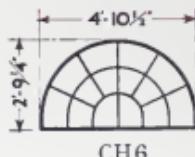
These units can be coupled to form composite windows, examples of which are shown on pages 13 and 14.

STANDARD METAL WINDOWS

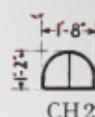
STOCK SIZES. UNITS



CH4

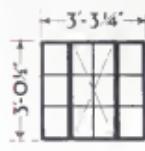


CH6

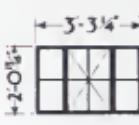


CH2

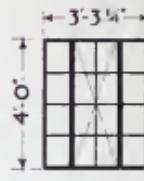
Fixed Lights



C2M



E2M



D2M

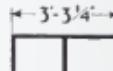
Ventilators Side-hung



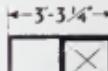
NH1



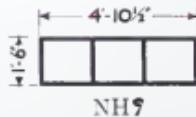
NH5



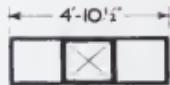
NH6



NH2



NH7



NH3

Ventilators Top-hung

NH types can be supplied, if required, with glazing bars,
to divide lights into two or four panes



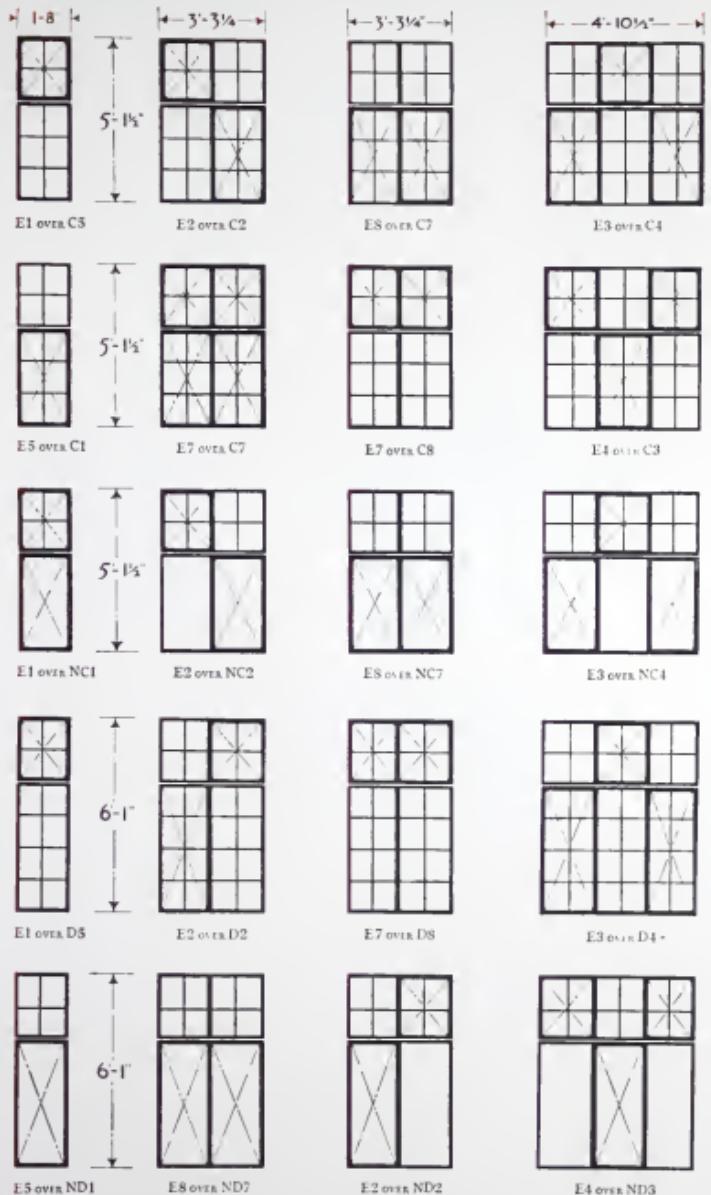
L1

Larder Window, bottom-hung,
with removable flyscreen

BULL'S EYE
Fixed Light

STANDARD METAL WINDOWS

EXAMPLES OF COMPOSITE TYPES



Units coupled by transomes.

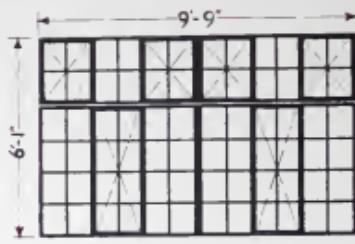
Units can also be coupled by mullions to form wider windows.

STANDARD METAL WINDOWS

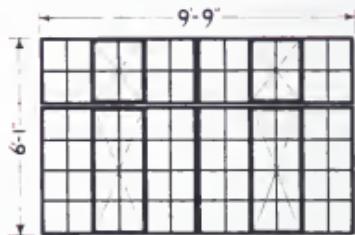
EXAMPLES OF COMPOSITE TYPES



CH4 over D2M



2 E4 over 2 D3



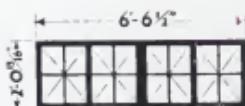
2 E3 over 2 D3



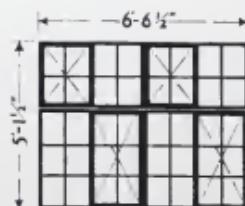
CH6 & G3 over D4



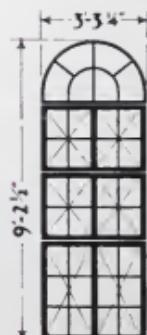
CH2, E1 & E5
over C1



2 E7

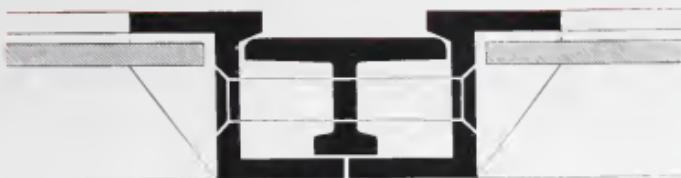


2 E2 over 2 C2

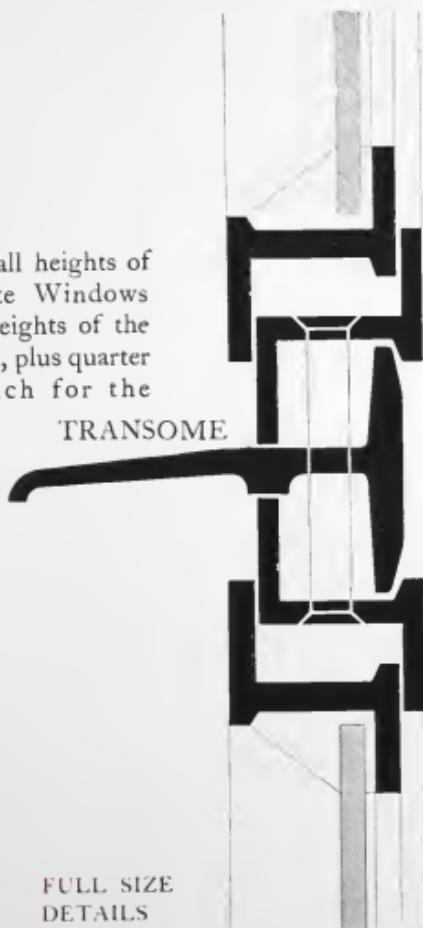


CH4 & 2 E7
over C7

STANDARD METAL WINDOWS COUPLING DETAILS



MULLION



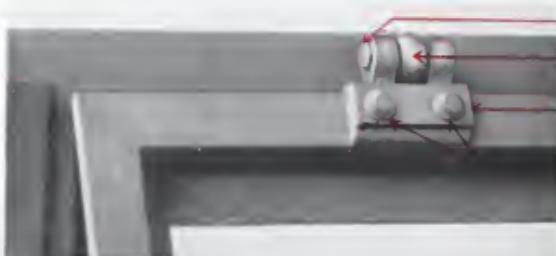
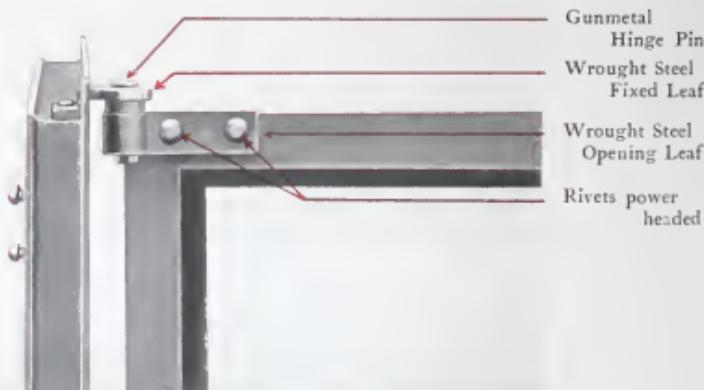
TRANSOME

FULL SIZE
DETAILS

STANDARD METAL WINDOWS

HINGES

THE Hinges used on Standard Metal Windows are neat in appearance and of substantial design, and are power riveted to the frames, the hinge centres being made of gunmetal. Special machining methods provide correct hanging, accurate fit of the pins in the hinges, and perfect alignment between top and bottom centres.



The opening leaf of the Top Hung Hinge is made of extruded gunmetal, whilst the fixed portion is a rust-proofed steel bolt.

STANDARD METAL WINDOWS

PROJECTING HINGES



OUTSIDE VIEW

All the expense and inconvenience of having windows cleaned from the outside can be avoided by the use of projecting hinges.

The windows can be cleaned easily and safely from the inside of the room.

Projecting hinges are supplied without extra charge when required, but **they must be specified when placing an order.**

$\approx 4\frac{1}{2}$ " when open \rightarrow



WINDOW OPEN, INSIDE VIEW

STANDARD METAL WINDOWS FITTINGS



THE HANDLE
(slightly reduced)



THE NIGHT-VENTILATOR
STAY
(half full size)



FULL SIZE DETAIL OF PEG STAY



THE PEG STAY (12 inches long)

STANDARD METAL WINDOWS

FITTINGS

Until very recently Standard Metal Windows were supplied with malleable iron fittings, an extra charge being made for gunmetal.

Forged Gunmetal Fittings are now supplied with all Crittall Standard Metal Windows, as standard, without extra charge.

Standard finish is dull bronze. Polished fittings can be supplied at a small additional charge.

THE HANDLE is made with double-notched nose and engages with a bevelled bronze striking-plate on the fixed frame. A Stop is provided on the handle-bracket to prevent it being turned beyond the correct position.

THE PEG-STAY of a channel section can be relied upon as a strong and rigid fitting. It engages with a peg, rivetted to the fixed frame and tapered to ensure that there will be no rattling when the window is open.

THE NIGHT-VENTILATOR STAY is used only on the top-hung ventilators of 'F' type windows (*see page 10*). When the window is closed the neck of the stay engages with a clip rivetted to the glazing-bar, thus effectively locking the window.

To avoid any possibility of breakage—such as often occurs with welded-on fittings—all our handle- and stay-brackets are power-riveted to the metal frames.

CURTAIN-ROD BRACKETS are supplied, if required, without extra charge. The fixing for these also serves, without alteration, for attaching the combined curtain-rod and roller-blind brackets and patent curtain-runners illustrated overleaf.

STANDARD METAL WINDOWS

ROLLER BRACKETS



DONALDSON (CRITTALL TYPE) BRACKETS, of mild steel, bronze finish, designed to carry in combination any type of spring roller and flexible curtain-rod.

Enquiries and orders should be sent to the makers :
DONALDSON MANUFACTURING COMPANY LTD., 1A BLYTHSWOOD SQUARE, GLASGOW.

STANDARD METAL WINDOWS CURTAIN RUNNERS



PATENT CURTAIN RUNNERS can be fixed either to the metal window, as shown, by means of the screws supplied, or direct to the wood framing. The curtain runner illustrated above is manufactured by CHALCO LTD., 35 SUMMER ROW, BIRMINGHAM.

STANDARD METAL WINDOWS

FIXING NOTES

GENERAL

CRITTALL STANDARD METAL WINDOWS are very easily fixed, but it is impossible to construct a window which cannot be spoiled by bad fixing.

The more usual fixing details are shown in this catalogue (*see* pages 24-29). They have been tried out over a period of years and have proved to be sound from every point of view. To ensure satisfactory results these details must be carefully followed.

UNLOADING. Windows are never sent by rail in larger bundles than 8 cwt.s. Where there are no facilities for handling such a bundle the splines should be removed in the truck, and the windows transferred to a lorry or cart one at a time.

HANDLING. Windows must be carried, not dragged along the ground, as this damages the paint.

STORAGE. All windows must be stacked on edge; never lay them horizontally. Care should be taken with composite windows to see that the coupling screws are not strained.

It will pay to stack windows on wooden splines.

Store under cover and in a dry place.

See that in stacking windows the fittings of one window are clear of the window next to it.

ERCTION. Except in cases where windows are built in, they should be left until all the rougher trades have left the site and the openings are ready for glazing.

The frames are not designed to carry any weight at the head.

Care must be taken to see that the windows are not damaged by placing scaffold boards on the cills, or glazing bars, or by drawing heavy objects through the openings.

CONDENSATION. All new buildings are subject to condensation, and until all water that has been used in building the house has evaporated this will continue. In order to get rid of this as quickly as possible all ventilators should be kept partially open on the night latch, as soon as they are glazed. A continuous supply of fresh air is the best drying medium.

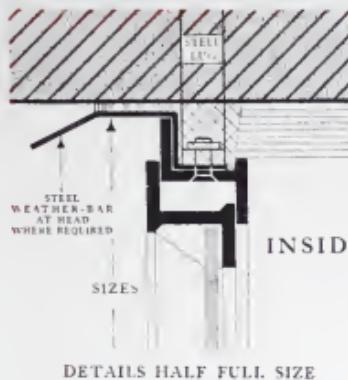
IMPORTANT

WEATHERING AT HEAD. To ensure weather tightness, the metal frame should be fixed as far back in the opening as possible, but in the case of windows with projecting hinges $2\frac{1}{4}$ " from the face of the wall is the maximum for easy cleaning. This will enable a throating to be formed in the lintol, or head of the opening. When for any reason the throating is omitted, a metal weather bar can be supplied at a small extra cost.

SLOPING CILLS. It is essential to see that the slope of the cill is as steep as possible and that it falls directly from the edge of the metal frame.

STANDARD METAL WINDOWS

FIXING NOTES



Any flat surface on the sill provides a lodgment whence water may be blown back against the window in bad weather.

MASTIC POINTING. All fixing details depend largely for their efficiency upon being properly pointed, after erection, with mastic. The coupling bars and pipe mullions of all composite windows should be pointed inside and outside after fixing. Crittall Mastic Cement can be supplied in 7, 14, and 28 lb. tins complete with all instructions ready for use.

FIXING HOLES IN CILLS. Where lugs cannot be used at the sill, grout should be poured in through the fixing holes and fixing screws placed in them.

ROUGH CAST WALLS. When this detail is used, it is preferable to use the wide flange frame, as this provides a greater depth to accommodate the plaster. Care must be taken to keep the plastering and pebble dashing free of the opening frame.

GLAZING

BACK PUTTY. Glass must never be put against the metal rebate. A thin layer of putty should be spread over the metal rebate and the glass pressed firmly against it.

Glazing clips are not necessary for small panes, but should be used for the no glazing bar types, and these windows are prepared for the same.

Where no glazing bars are used, the weight of the glass should be thrown on the lower hinge corner by means of small wood wedges, placed between the glass and the metal frame.

PUTTY. Ordinary glazier's putty is not suitable for glazing metal windows, as the steel frame will not absorb the excessive quantity of oil. It is necessary to see that only linseed oil is used (in sufficient quantity to allow the putty to be worked without being sticky). A little mastic or red lead mixed with the putty will assist quick setting and add to its strength and permanence.

PAINTING. Care is taken that Crittall Standard Metal Windows are freed from rust and scale before being dipped two coats of zinc oxide priming paint. In case the paint should be damaged in transit or erection, it is necessary to see that all signs of rust are removed before applying the finishing coats, which may be of any good quality paint, and which should not be applied until the putty is set.

STANDARD METAL WINDOWS

FIXING IN CAVITY WALLS

WHERE good facing bricks are obtainable, walls are usually constructed with a 2" cavity, the metal frame being fixed in the middle of the outer wall. In order to obtain the best results with this method of construction, care should be taken to see that there is as little contact as possible between the inner and outer wall, as otherwise the inner wall, which is dry, will absorb the moisture from the outer wall. The method shown on the opposite page of closing the cavity has been found to be quite successful in this respect.

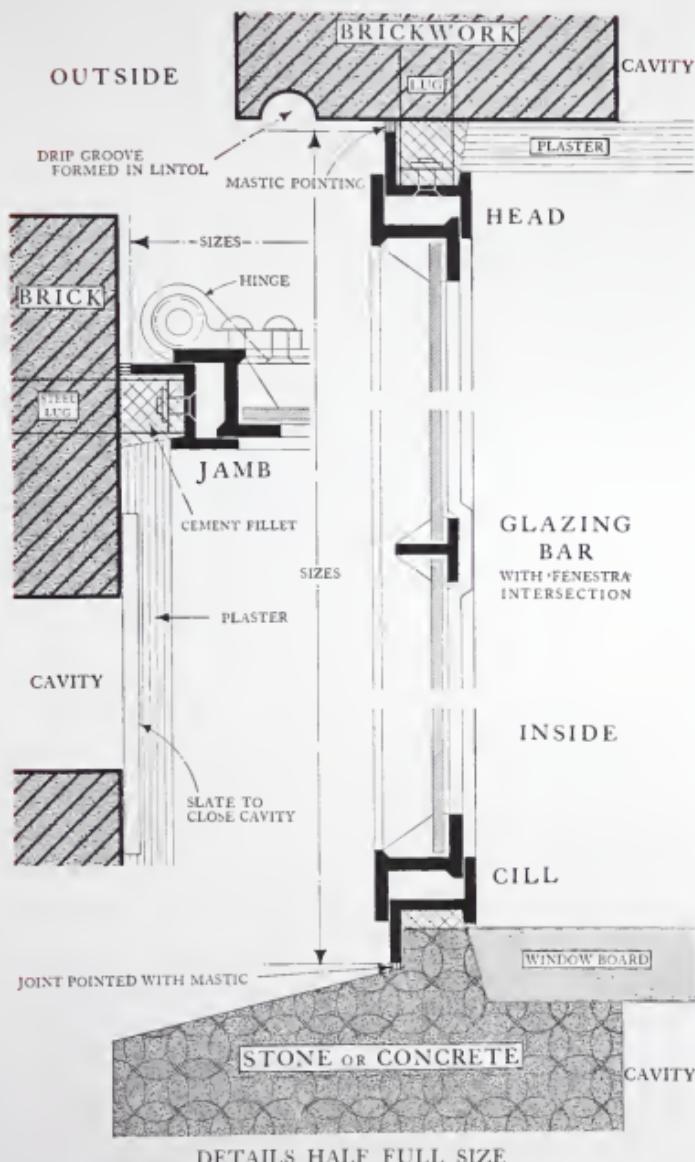
FIXING INSTRUCTIONS ‘BUILD THEM IN’

1. Attach lugs and stand frame upon sill. Adjust carefully, to see that the frame opens and closes properly.
Position of Fixing Holes to receive bolt for lug or wood screw:
Height = E type windows, 6" from top and bottom.
C & D " " 9" " " "
Width = Single units 8" from each jamb.
2—3 lights 12" " " "
2. When plumb and level, shut and wire the ventilators, and strut the frame securely, so that it cannot be moved.
3. As the brickwork proceeds, see that the channel of the metal frame is well filled with cement to make a good joint.
4. No weight must be allowed to rest on the metal frame when placing the lintol or brick arch.
5. When the opening is complete, the external joint should be raked out and pointed with mastic. The slate damp-course closing the cavity should be applied immediately before the plaster, and should be set in cement.

Crittall Mastic Cement can be supplied in 7, 14, and 28 lb. tins complete with all instructions ready for use.

STANDARD METAL WINDOWS

FIXING DETAILS—CAVITY WALLS



STANDARD METAL WINDOWS

FIXING TO ROUGH-CAST WALLS

AS an alternative to brick-facing, pebble dashing or other forms of external rendering are often adopted. The details on the opposite page show the correct method of installing Standard Metal Windows in such buildings.

Particular attention is drawn to where the sizes are given. An allowance of about 1 in. all round must be made for the external finish of the plaster.

An alternative to returning pebble dashing (i.e., rough-casting) into the reveal is to finish the reveal in neat cement. This makes a sound weatherproof finish, and the cement can be painted the same colour as the metal frame, to give the effect of a wide outside frame, the absence of which is sometimes used as an argument against using metal windows.

With this method of installation there is not the same advantage in building frames in, as when they come in direct contact with the surrounding brickwork (see detail for Cavity Walls, page 25). They may be built in if desired, but care must be taken to see that they are not put out of alignment before the final cement fillet is applied.

FIXING INSTRUCTIONS

1. Attach lugs to the frame and knock out bricks which come opposite to them, so that the lugs are free from the masonry.

Position of Fixing Holes to receive bolt for lug or wood screw:

Height = E type windows, 6" from top and bottom.

C & D " " 9" " "

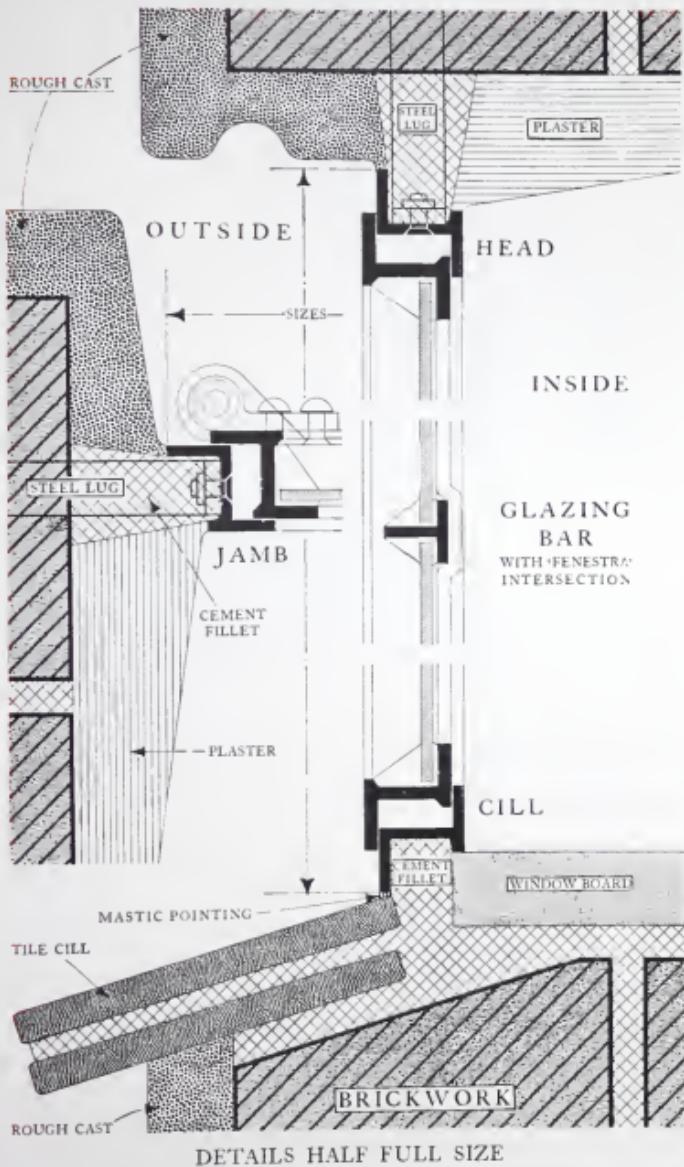
Width = Single units 8" from each jamb."

2—3 lights 12" " " "

2. Stand the windows upon wooden blocks and carefully adjust with wedges, and see ventilators open and close correctly.
3. When plumb and level, fix the lugs in cement, and, when well set, remove the blocks. Fill in the space between the masonry and the frame with cement, being careful to see it is well tamped into the channel of the metal frame.
4. When external tile cills are used, the tiles should first be laid, and when set, grout should be poured through the fixing holes, and fixing screws placed in them.
5. When the cement is well set the external and internal plaster can be applied.

Crittall Mastic Cement can be supplied in 7, 14, and 28 lb. tins complete with all instructions ready for use.

STANDARD METAL WINDOWS FIXING TO ROUGH-CAST WALLS



STANDARD METAL WINDOWS

FIXING IN FRAMED OPENINGS

WHEN framed openings are used in wood, stone, or artificial stone, they should be prepared with a $\frac{1}{2}$ -in. external rebate all round, as shown on the opposite page.

FIXING INSTRUCTIONS

1. Do not force a window into an opening too small to receive it. Cut away the surrounding work until the window will go freely into position.
2. In stone, brick, or artificial stone openings, mark off the position of the fixing holes, and having cut the holes insert elm plugs.

Position of Fixing Holes to receive bolt for lug or wood screw:

Height = E type windows, 6" from top and bottom.

C & D " " 9" " " "

Width = Single units 8" from each jamb.

2—3 lights 12" " " "

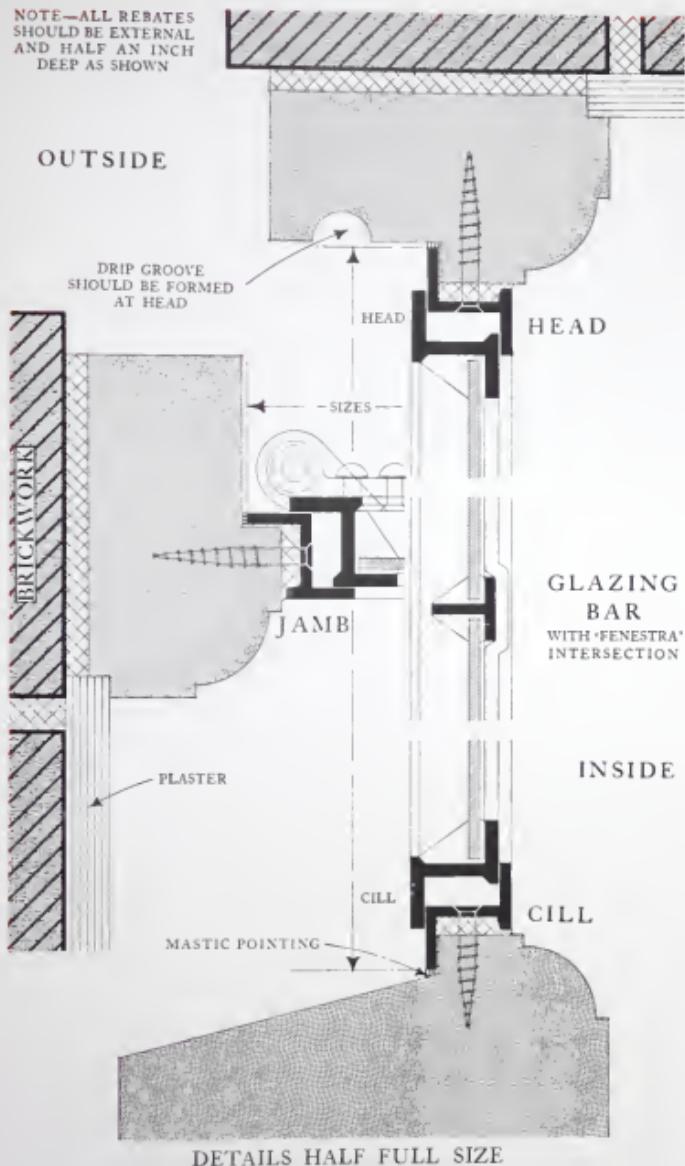
3. Fill the channel of the frame with mastic, and press the window against the rebate.
4. Screw the casement to the plugs (or wooden frame), taking care not to distort it by driving the screws in too tightly, then trim off the mastic, and point firmly into the external and internal joint.

Crittall Mastic Cement can be supplied in 7, 14, and 28 lb. tins complete with all instructions ready for use.

STANDARD METAL WINDOWS

FIXING IN FRAMED OPENINGS

NOTE—ALL REBATES
SHOULD BE EXTERNAL
AND HALF AN INCH
DEEP AS SHOWN



STANDARD METAL WINDOWS

GLAZING SIZES

OUTWARD OPENING TYPES—WITH GLAZING BARS

TYPES AND NUMBERS OF PIECES OF GLASS										SIZES in inches
AA1	AA2	AA3	AA4	AA5	AA6	AA8	AA7	BB1		
2	2	2	4				4	2	10 $\frac{13}{16}$	$8\frac{7}{16}$
I	I	I	2					2	22 $\frac{5}{8}$	$17\frac{3}{16}$
2	4	2	2						11 $\frac{3}{8}$	$9\frac{1}{16}$
I	2	I	I						23 $\frac{1}{8}$	$18\frac{3}{8}$
						I			11 $\frac{3}{8}$	$9\frac{5}{16}$
						I			23 $\frac{1}{8}$	$9\frac{5}{16}$
							I		34 $\frac{1}{8}$	$17\frac{3}{16}$
							I		10 $\frac{13}{16}$	$8\frac{7}{16}$
							I		22 $\frac{5}{8}$	$8\frac{7}{16}$
BB2 BB3 BB4 BB5 BB6 BB8 BB7 AA2F AA3F										SIZES in inches
2	2	4				4	2	2	10 $\frac{13}{16}$	$8\frac{7}{16}$
							I	I	22 $\frac{5}{8}$	$17\frac{3}{16}$
2	4	2	2					2	11 $\frac{3}{8}$	$9\frac{1}{16}$
							I	2	23 $\frac{1}{8}$	$18\frac{3}{8}$
						I			11 $\frac{3}{8}$	$9\frac{5}{16}$
I	I	2				2			34 $\frac{1}{8}$	$17\frac{3}{16}$
I	2	I	I						34 $\frac{1}{8}$	$18\frac{3}{8}$
						I			34 $\frac{1}{8}$	$9\frac{5}{16}$
							2	2	10 $\frac{13}{16}$	$8\frac{7}{16}$
						I			10 $\frac{13}{16}$	$8\frac{7}{16}$
						I			34 $\frac{1}{8}$	$8\frac{7}{16}$
AA4F AA5F AA6F BB2F BB3F BB4F BB5F BB6F										SIZES in inches
4			2	2	4				10 $\frac{13}{16}$	$8\frac{7}{16}$
2									22 $\frac{5}{8}$	$17\frac{3}{16}$
I	I								23 $\frac{1}{8}$	$18\frac{3}{8}$
					2				11 $\frac{3}{8}$	$9\frac{1}{16}$
			I						23 $\frac{1}{8}$	$9\frac{5}{16}$
				I	I	2			34 $\frac{1}{8}$	$17\frac{3}{16}$
				I	2	I	I		34 $\frac{1}{8}$	$18\frac{3}{8}$
							I		34 $\frac{1}{8}$	$9\frac{5}{16}$
2	2		2	2	2	2			10 $\frac{13}{16}$	$8\frac{7}{16}$
			I				I		10 $\frac{13}{16}$	$8\frac{7}{16}$

NOTE.—Above are dead sizes of glass. Allowance has been made for going in.

STANDARD METAL WINDOWS

GLAZING SIZES

OUTWARD OPENING TYPES—WITH GLAZING BARS

TYPES AND NUMBERS OF PIECES OF GLASS										SIZES in inches
C1	C2	C3	C4	C5	C6	C8	C7	C9		
4	4	4	8				8			10 $\frac{13}{16}$ x 8 $\frac{7}{16}$
2	2	2	4				4			11 $\frac{3}{8}$ x 8 $\frac{7}{16}$
6	12	6		6	3			12	18	11 $\frac{3}{8}$ x 9 $\frac{1}{16}$
						2				10 $\frac{13}{16}$ x 8 $\frac{3}{16}$
						1				11 $\frac{3}{8}$ x 8 $\frac{3}{16}$
D1	D2	D3	D4	D5	D6	D8	D7	D9		SIZES in inches
4	4	4	8				8			10 $\frac{13}{16}$ x 8 $\frac{7}{16}$
4	4	4	8				8			11 $\frac{3}{8}$ x 8 $\frac{7}{16}$
8	16	8	8	8	4			16	24	11 $\frac{3}{8}$ x 9 $\frac{1}{16}$
						2				10 $\frac{13}{16}$ x 8 $\frac{3}{16}$
						2				11 $\frac{3}{8}$ x 8 $\frac{3}{16}$
E1	E2	E3	E4	E5	E6	E8	E7	E9		SIZES in inches
4	4	4	8				8			10 $\frac{13}{16}$ x 8 $\frac{7}{16}$
4	8	4	4	4	2			8	12	11 $\frac{3}{8}$ x 9 $\frac{1}{16}$
						2				10 $\frac{13}{16}$ x 8 $\frac{3}{16}$
C2F	C3F	C4F	C5F	C6F	D2F	D3F	D4F	D5F	D6F	SIZES in inches
4	4	8			4	4	8			10 $\frac{13}{16}$ x 8 $\frac{7}{16}$
4	10	4	4	2	6	14	6	6	3	11 $\frac{3}{8}$ x 9 $\frac{1}{16}$
2	2	4			4	4	8			11 $\frac{3}{8}$ x 8 $\frac{7}{16}$
2	2	2	2		2	2	2	2		10 $\frac{13}{16}$ x 8 $\frac{7}{16}$
				I					I	10 $\frac{13}{16}$ x 8 $\frac{3}{16}$
E5F	F6F	G1	G2	G3	G5	G8	G9			SIZES in inches
2	I									11 $\frac{3}{8}$ x 9 $\frac{1}{16}$
	I									10 $\frac{5}{16}$ x 8 $\frac{3}{16}$
		2	2	2						8 $\frac{7}{16}$ x 8 $\frac{7}{16}$
			2	4	2		4	6		9 $\frac{9}{16}$ x 9 $\frac{1}{16}$
										10 $\frac{5}{16}$ x 8 $\frac{7}{16}$

NOTE.—Above are dead sizes of glass. Allowance has been made for going in.

STANDARD METAL WINDOWS

GLAZING SIZES

OUTWARD OPENING TYPES—WITHOUT GLAZING BARS

TYPES AND NUMBERS OF PIECES OF GLASS										SIZES in inches
NC1	NC2	NC3	NC4	NC5	NC6	NCS6	NC7	NC8	NC9	
I	I	I	2				2			33 $\frac{1}{2}$ x 17 $\frac{3}{8}$
	I	2	I	I				2	3	34 $\frac{1}{2}$ x 18 $\frac{5}{8}$
					I					34 $\frac{1}{2}$ x 9 $\frac{5}{8}$
						I				33 $\frac{1}{2}$ x 8 $\frac{5}{16}$
ND1 ND2 ND3 ND4 ND5 ND6 NDS6 ND7 ND8 ND9										SIZES in inches
I	I	I	2				2			45 $\frac{1}{2}$ x 17 $\frac{3}{16}$
	I	2	I	I				2	3	46 $\frac{1}{2}$ x 18 $\frac{5}{16}$
					I					46 $\frac{1}{2}$ x 9 $\frac{5}{8}$
						I				45 $\frac{1}{2}$ x 8 $\frac{5}{16}$
NE1 NE2 NE3 NE4 NE5 NE6 NES6 NE7 NE8 NE9										SIZES in inches
I	I	I	2				2			22 x 17 $\frac{3}{16}$
	I	2	I	I				2	3	23 $\frac{1}{2}$ x 18 $\frac{5}{16}$
					I					23 $\frac{1}{2}$ x 9 $\frac{5}{8}$
						I				22 x 8 $\frac{5}{16}$
NG1 NG2 NG3 NG5 NG8 NG9 NC2F NC3F NC4F NC5F										SIZES in inches
I	I	I								8 $\frac{7}{16}$ x 17 $\frac{3}{16}$
	I	2	I	2	3					9 $\frac{9}{16}$ x 18 $\frac{5}{16}$
						I	I	2		33 $\frac{1}{2}$ x 17 $\frac{3}{16}$
						I	I	I	I	15 $\frac{15}{16}$ x 17 $\frac{3}{16}$
						I	I	I	I	17 $\frac{9}{16}$ x 18 $\frac{5}{16}$
						I				34 $\frac{1}{2}$ x 18 $\frac{5}{16}$
NC6F ND2F ND3F ND4F ND5F ND6F NE5F NE6F										SIZES in inches
I										15 $\frac{15}{16}$ x 8 $\frac{5}{16}$
I										17 $\frac{9}{16}$ x 9 $\frac{5}{16}$
I	I	I	2							45 $\frac{1}{2}$ x 17 $\frac{3}{16}$
I	I	I	I							17 x 17 $\frac{3}{16}$
I	I	I	I							27 $\frac{15}{16}$ x 18 $\frac{5}{16}$
I					I					46 $\frac{1}{2}$ x 18 $\frac{5}{16}$
					I					17 x 8 $\frac{5}{16}$
					I					27 $\frac{15}{16}$ x 9 $\frac{5}{16}$
					I					10 $\frac{5}{16}$ x 8 $\frac{5}{16}$
					I					11 $\frac{3}{16}$ x 9 $\frac{5}{16}$
					I					10 $\frac{5}{16}$ x 17 $\frac{3}{16}$
					I					11 $\frac{3}{16}$ x 18 $\frac{5}{16}$

NOTE.—Above are dead sizes of lead glazing panels or sheet glass.
Allowance has been made for going in.

STANDARD METAL WINDOWS

BAYS



INTRODUCTION

BAY WINDOWS provide an easy method of adding extra light and floor-space and can be made an attractive feature of any room. Crittall Standard Metal Windows can be joined together with tubular mullions to form Bays at any angle. This is the most economical method and sacrifices least lighting area at the coupling posts.

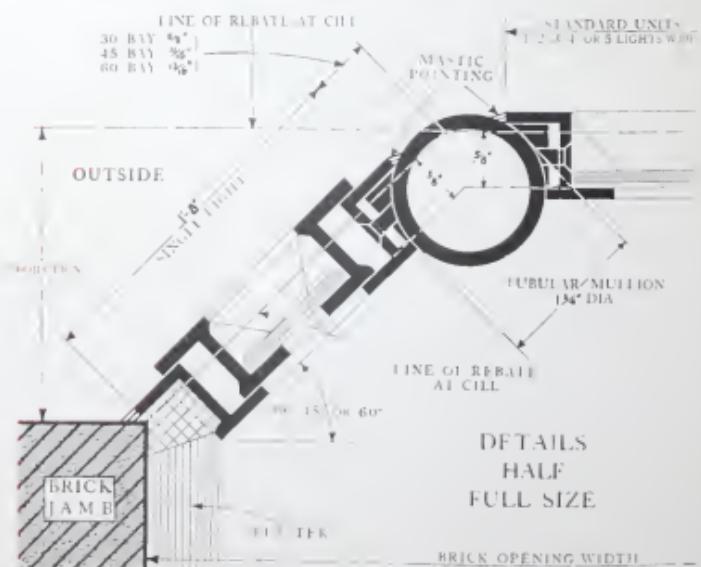
Bay Windows can be made Oriel, Splayed, Square, Square-splayed, and Circular.

Mullions are only stocked ready drilled for making up bays to the angles shown in the following pages; but while bays can be made to any angle desired, some little time must in such cases be allowed for special setting-out and drilling of the mullions.

For convenience in transport, and to prevent damage, the side-lights are detached from the front of the bay before despatch. Reassembling on the site only requires replacement of the coupling-screws.

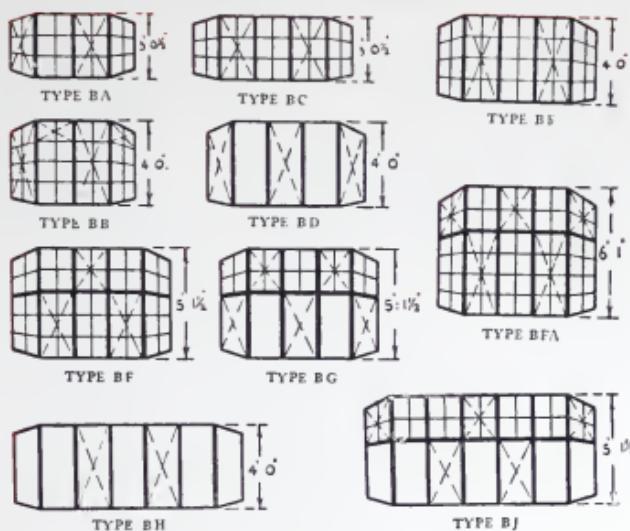
STANDARD METAL WINDOWS

SPLAYED BAYS



STANDARD METAL WINDOWS

SPLAYED BAYS



The illustrations show examples of Splayed Bays constructed with Standard types. Any desired arrangement can be made within the limits of the Standard units.

APPROXIMATE PROJECTION AND BRICK OPENING WIDTHS FOR SPLAYED BAYS

	$10\frac{5}{8}''$ proj.	$1' 2\frac{5}{8}''$ proj.	$1' 5\frac{1}{8}''$ proj.
ONE LIGHT WIDE with single side lights.	4' $8\frac{3}{4}''$	4' $2\frac{1}{2}''$	3' $6\frac{3}{4}''$
TWO LIGHTS WIDE with single side lights, as types B.A. & B.B.	6' 4"	5' $9\frac{3}{4}''$	5' $1\frac{1}{8}''$
THREE LIGHTS WIDE with single side lights, as types B.C., B.E., B.D., B.F., B.F.A. & B.G.	7' $11\frac{1}{4}''$	7' 5"	6' $8\frac{7}{8}''$
FOUR LIGHTS WIDE with single side lights.	9' $7\frac{1}{4}''$	9' 1"	8' $4\frac{7}{8}''$
FIVE LIGHTS WIDE with single side lights, as types B.H. & B.J.	11' $3\frac{1}{4}''$	10' 9"	10' $0\frac{7}{8}''$

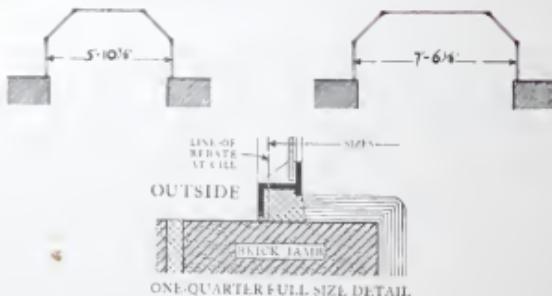
N.B. The four-light front is made by coupling two two-light units, and the five-light front by a three-light and two single-light units.

STANDARD METAL WINDOWS

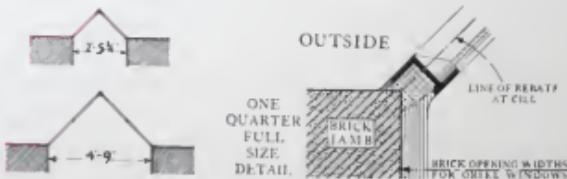
SQUARE-SPLAYED BAYS



The illustrations show examples of Square-Splayed Bays constructed with Standard types. Any desired arrangement can be made within the limits of the Standard units.



ORIEL WINDOWS

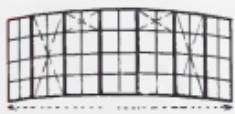


STANDARD METAL WINDOWS

CIRCULAR BAYS



The illustrations show examples of Circular Bays constructed with Standard types. Any desired arrangement can be made within the limits of the Standard units.



TYPE B.M.
BRICKWORK OPENING 10' 6"
APPROXIMATE PROJECTION 2' 7 $\frac{1}{2}$ "



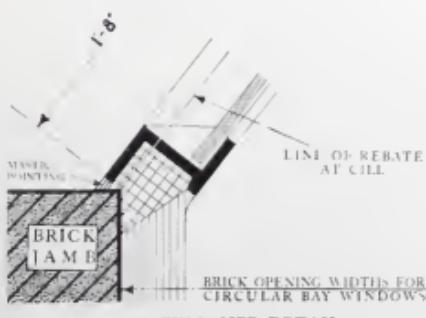
TYPE B.L.
BRICKWORK OPENING 9' 0"
APPROXIMATE PROJECTION 2' 3 $\frac{1}{2}$ "



TYPE B.K.
BRICKWORK OPENING 7' 6"
APPROXIMATE PROJECTION 1' 10 $\frac{1}{2}$ "

OUTSIDE

NOTE—RADIi GIVEN ON
APPLICATION

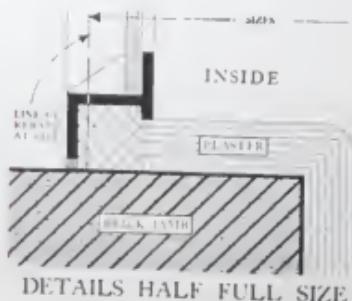
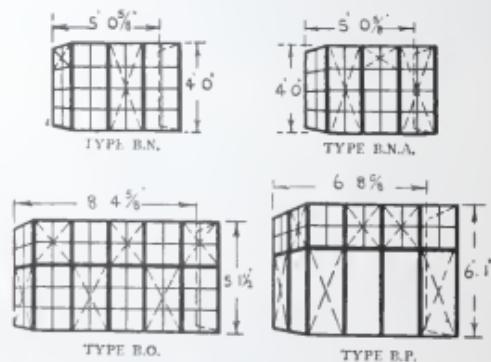


STANDARD METAL WINDOWS

SQUARE BAYS

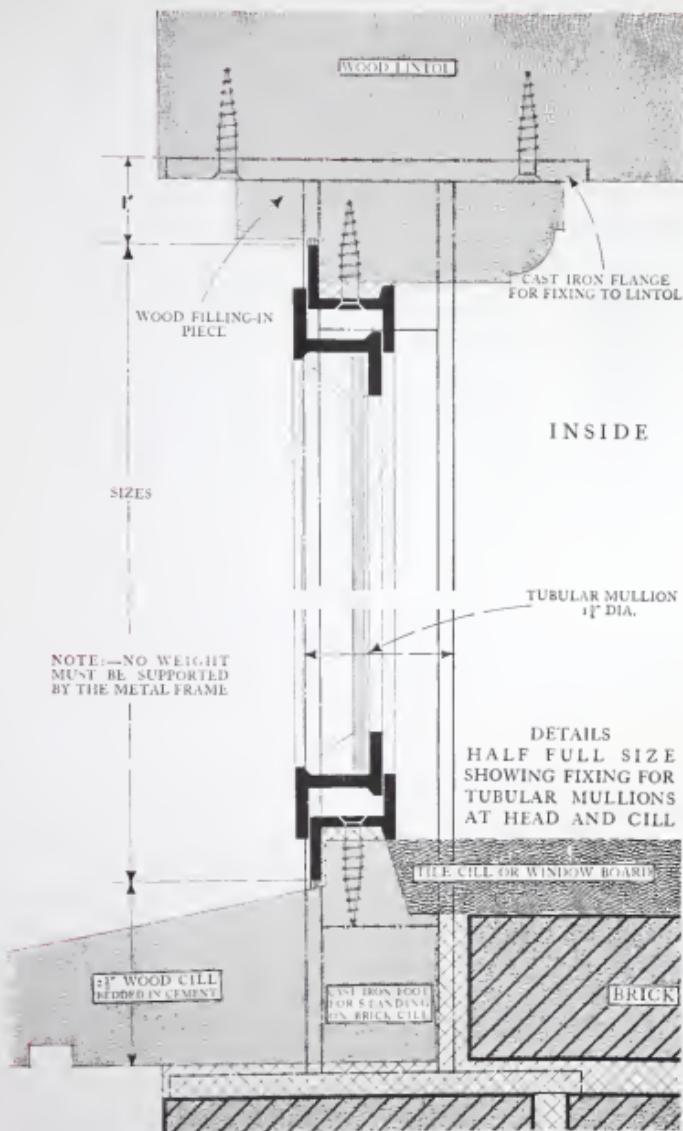


The illustrations show examples of Square Bays constructed with Standard types. Any desired arrangement can be made within the limits of the Standard units.



STANDARD METAL WINDOWS

BAY WINDOWS—FIXING DETAILS



STANDARD METAL WINDOWS WIDER FRAMES



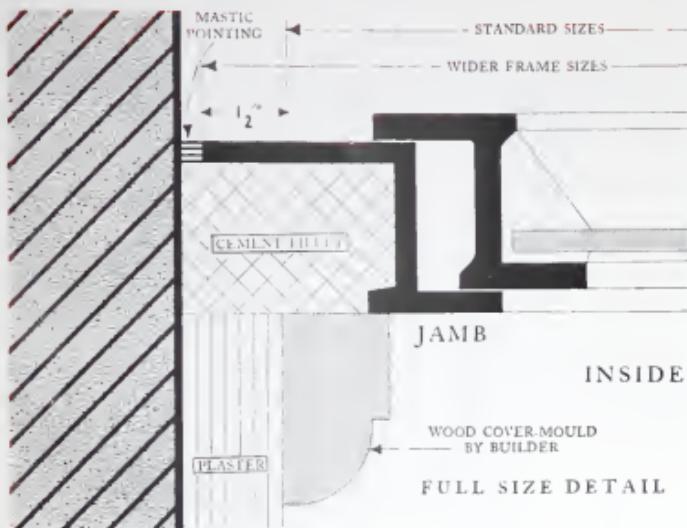
TYPE WC2F 3' 1 $\frac{1}{2}$ " high \times 3' 4 $\frac{1}{4}$ " wide

AN alternative frame section is used in cases where a rather heavier appearance is required than is provided by the standard sections. This provides a total width of frame of approximately TWO INCHES and increases the standard dimensions of each unit by ONE INCH in height and width.

The extended outer flange can be used as an extra weather check against the masonry in exposed positions, as shown in details on the opposite page. The short inner leg allows the channel to be properly filled with cement, which can be finished with a wood cover-mould if desired.

For complete range of over-all sizes, see pages 58 and 59.

STANDARD METAL WINDOWS WIDER FRAMES

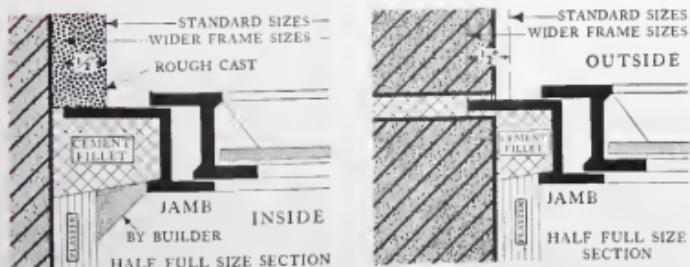


INCREASED HEIGHTS AND WIDTHS

If wider-frame section is required, use prefix W. before the Standard symbol-letters as given on pages 10 and 11, thus, WC 1, WC 2, etc.

For sizes of Standard Metal Windows with wider-frame section add one inch to sizes of *Standard Units*, e.g.:

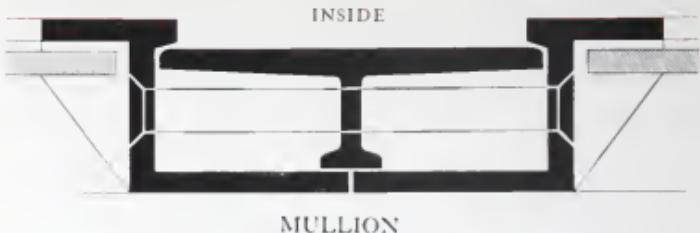
<i>Wider-frames</i>	<i>Height</i>	<i>Width</i>
WC 1	3' 1 1/2"	1' 9"
WD 2F	4' 1 1/2"	3' 4 1/2"
WE 3 - WC 4 (Composite, with transome)	5' 3 1/2"	4' 11 1/2"
Two WE 2 - WD 2 (Coupled with mullion)	6' 3"	6' 8 1/2"



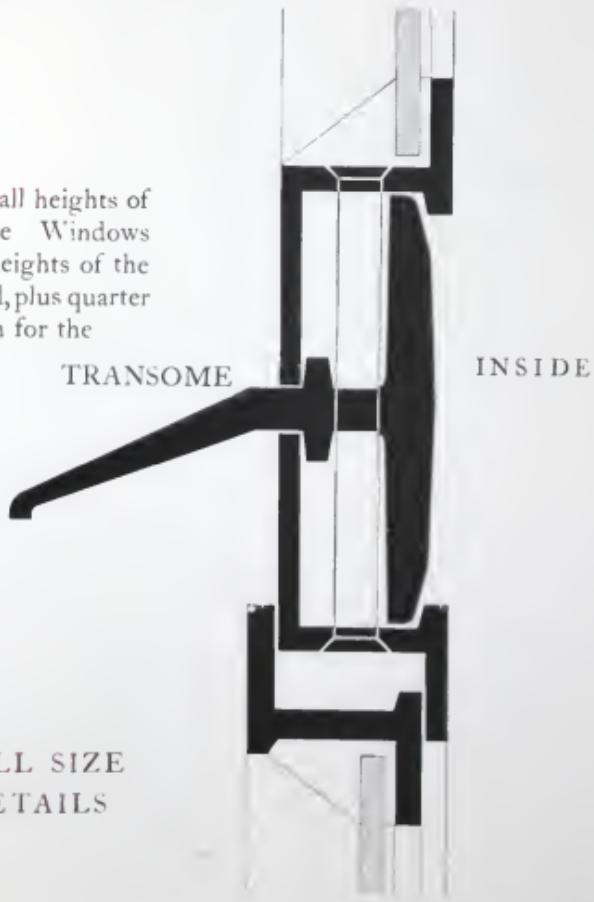
STANDARD METAL WINDOWS

WIDER FRAMES

COUPLING DETAILS



For over-all heights of
Composite Windows add the heights of the
units used, plus quarter
of an inch for the



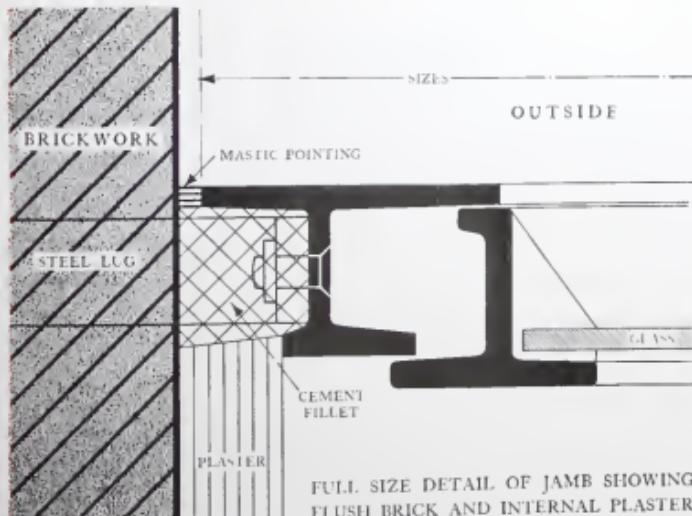
STANDARD METAL WINDOWS INWARD OPENING TYPES



TYPE LI

(Larder Window)
supplied with or
without removable
flyscreen as
required.

The inward opening range of Standard Metal Windows is intended for use where external projection is not desirable, and where flyscreens or shutters are needed. By the use of a specially designed section they are made so that they can be coupled to the outward opening types, and the fixing details are the same. Glass sizes are given overleaf.



FULL SIZE DETAIL OF JAMB SHOWING
FLUSH BRICK AND INTERNAL PLASTER

STANDARD METAL WINDOWS INWARD OPENING TYPES



TYPE J7

GLASS SIZES FOR INWARD OPENING TYPES

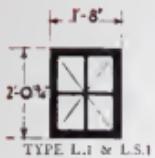
LI & LSI	L7	LS7	J1	K1	K7	J7	SIZES in inches
4	4	4	4	4	4	4	10 $\frac{5}{16}$ x 7 $\frac{15}{16}$
	4						10 $\frac{5}{16}$ x 9 $\frac{5}{16}$
		4			4	4	10 $\frac{5}{16}$ x 9 $\frac{1}{16}$
			2			2	11 $\frac{7}{16}$ x 7 $\frac{15}{16}$
				4	4		11 $\frac{5}{16}$ x 7 $\frac{15}{16}$
					2	11 $\frac{7}{16}$ x 9 $\frac{1}{16}$	
					4		11 $\frac{5}{16}$ x 9 $\frac{1}{16}$

NOTE.—Above are dead sizes of glass; allowance has been made for going in.

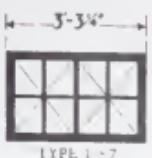
STANDARD METAL WINDOWS

INWARD OPENING TYPES

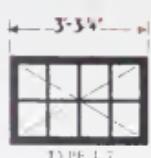
STOCK SIZES. UNITS



TYPE L.1 & L.5



TYPE I.1 & I.7



TYPE L.7

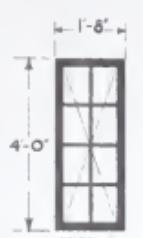
TYPES L.1 AND L.7 ARE BOTTOM HUNG, TYPES L.5 AND L.7 ARE SIDE HUNG



TYPE J.1



TYPE J.7



TYPE K.1



TYPE K.7

J.1, J.7, K.1, AND K.7 ARE SIDE HUNG TYPES

NOTES. These types are all prepared to receive removable flyscreens on the outside, which can be supplied when ordered.

The fixing details for inward opening Standard Metal Windows are the same as for the outward opening types.

SPECIFICATION

Windows are complete with all the necessary fittings and hinges, adjusted ready for use. Constructed of rolled steel bars hydraulically straightened. All corners welded. Glazing Bars of $\frac{3}{4}'' \times \frac{3}{4}''$ Tee intersected by the Fenestra System. All windows prepared for external glazing. Hung on steel pivots with gunmetal centres and provided with all necessary screws or lugs for fixing.

Fittings. Folding casements have espagniolette bolt with steel rods and painted gunmetal handle. Side Hung casements have malleable iron handle. Bottom Hung casements have quadrant stay which allows the vent if required to open right down for cleaning.

Finish. Two coats of zinc oxide.

STANDARD METAL WINDOWS WOOD SURROUNDS

All types of Standard Metal Windows and French doors (and fanlights) can now be supplied complete in Wood Surrounds. Windows so treated are very easily built-in and are more economical in time and money than windows and wood frames supplied separately from different sources.

SPECIFICATION

Crittall Standard Wood Surrounds are made from selected timber, the heads being out of $3\frac{1}{2}'' \times 2\frac{1}{2}''$ deal, and the cills out of $6'' \times 3''$ oak.

Wood Surrounds to the following specification can also be supplied out of $4'' \times 3''$ deal with cills out of $6'' \times 3''$ oak.

Deal cills at reduced cost can be supplied as an alternative if desired.

Each member is moulded on the inside and has a groove to receive interior plaster or wood lining, with another groove in the face next to the wall, which receives the cement in which the window is fixed, the broken joint so formed making an effective weather-check, even in the event of shrinkage of the wood.

Heads and transomes are throated on their undersides to form a drip, thus preventing water being blown against the metal window contacts.

Cills are made with ample fall from the bottom of the metal frame to prevent water lodging there, and their undersides are grooved to form a drip.

The Metal Windows are well bedded into the Wood Surrounds with mastic cement. Unless orders contain instructions to the contrary the Wood Surrounds, except oak cills, are primed at our works before despatch. The heads and cills are left projecting beyond the joints to form horns for building into brickwork.

STANDARD METAL WINDOWS

WOOD SURROUNDS

SINGLE UNITS

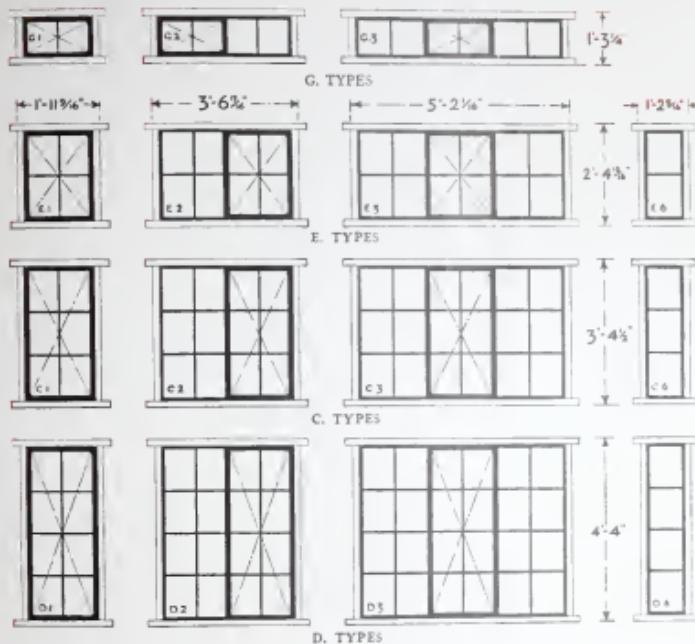


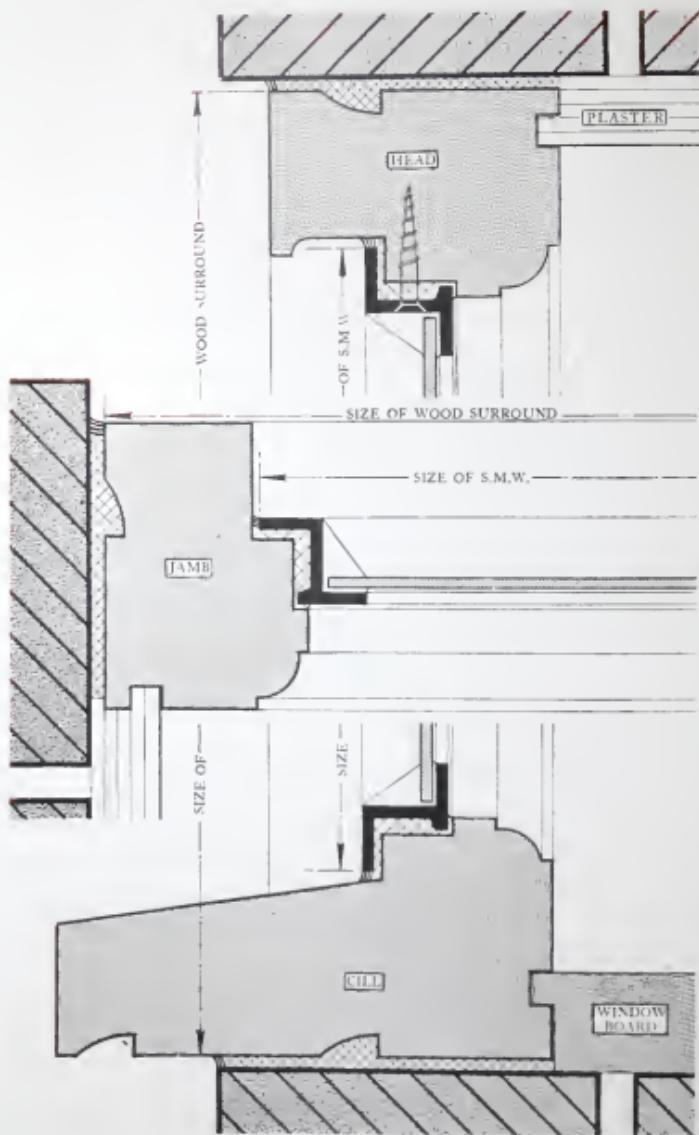
TABLE OF SIZES
FOR SINGLE UNITS IN STD. WOOD SURROUNDS

HEIGHTS			WIDTHS		
TYPES	SIZE $3\frac{1}{2}'' \times 2\frac{1}{2}''$	SIZE $4'' \times 3''$	TYPES	SIZE $3\frac{1}{2}'' \times 2\frac{1}{2}''$	SIZE $4'' \times 3''$
G	1' 3 1/4"	1' 3 13/16"	E6, C6, D6, ETC.	1' 2 9/16"	1' 3 9/16"
E	2' 4 13/16"	2' 5 3/8"	E1, C1, D1, ETC.	1' 11 9/16"	2' 0 9/16"
C & AA	3' 4 1/2"	3' 5 1/16"	E2, C2, D2, ETC.	3' 6 13/16"	3' 7 13/16"
D & BB	4' 4"	4' 4 9/16"	E3, C3, D3, ETC.	5' 2 1/16"	5' 3 1/16"

Figures in red give sizes where $4'' \times 3''$ surround is used

STANDARD METAL WINDOWS

WOOD SURROUNDS

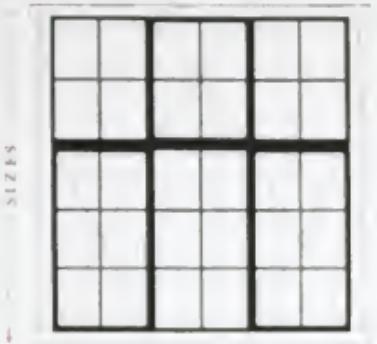


DETAILS APPROXIMATELY HALF FULL SIZE

STANDARD METAL WINDOWS

WOOD SURROUNDS

COMPOSITE TYPES, STEEL MULLIONS AND TRANSOMES



COMPOSITE TYPE E (4 LIGHTS)
WOOD SURROUNDS

TABLE OF SIZES (Overall)

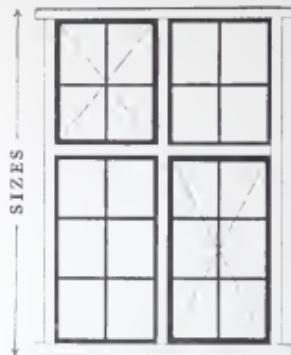
HEIGHTS			WIDTHS		
TYPES	SIZE $3\frac{1}{2}'' \times 2\frac{1}{2}''$	SIZE $4'' \times 3''$	TYPES	SIZE $3\frac{1}{2}'' \times 2\frac{1}{2}''$	SIZE $4'' \times 3''$
G/E	$3' 4\frac{1}{2}''$	$3' 4\frac{1}{2}''$	11" WIDE E6, C6, D6, ETC	$1' 2\frac{3}{8}''$	$1' 3\frac{3}{8}''$
G/C	$4' 4\frac{1}{2}''$	$4' 4\frac{1}{2}''$	1 LIGHT E1, C1, D1, ETC	$1' 11\frac{5}{8}''$	$2' 0\frac{3}{8}''$
G/D	$5' 3\frac{1}{2}''$	$5' 4\frac{1}{2}''$	2 LIGHT E2, C2, D2, ETC	$3' 6\frac{11}{16}''$	$3' 7\frac{3}{8}''$
E/C	$5' 5\frac{1}{8}''$	$5' 6\frac{1}{8}''$	3 LIGHT E3, C3, D3, ETC	$5' 2\frac{1}{8}''$	$5' 3\frac{3}{8}''$
E/D	$6' 5\frac{1}{8}''$	$6' 5\frac{1}{8}''$	4 LIGHT E2, C2, D2, ETC	$6' 10\frac{1}{16}''$	$6' 11\frac{3}{8}''$

NOTE.—FOUR-LIGHT WINDOW COMPRISSES TWO 2-LIGHT UNITS COUPLED
Figures in red give sizes where $4'' \times 3''$ surround is used.

STANDARD METAL WINDOWS

WOOD SURROUNDS

COMPOSITE TYPES, WOOD MULLIONS
AND TRANSOMES



COMPOSITE E. & C. TYPES
IN WOOD SURROUNDS
WITH WOOD MULLION
AND TRANSOME

TABLE OF SIZES (Over-all)

HEIGHTS			WIDTHS		
TYPES	SIZE $3\frac{1}{2}'' \times 2\frac{1}{2}''$	SIZE $4'' \times 3''$	TYPES	SIZE $3\frac{1}{2}'' \times 2\frac{1}{2}''$	SIZE $4'' \times 3''$
G/E	$3' 5\frac{1}{4}''$	$3' 6\frac{5}{16}''$	11" UNIT E6, C6, D6, ETC.	$1' 2\frac{9}{16}''$	$1' 3\frac{9}{16}''$
G/C	$4' 4\frac{15}{16}''$	$4' 6''$	1 LIGHT, 1' 8" UNIT E1, C1, D1, ETC.	$1' 11\frac{9}{16}''$	$2' 0\frac{9}{16}''$
G/D	$5' 4\frac{7}{16}''$	$5' 5\frac{1}{2}''$	2' 1' 8" UNITS and 1 wood mullion	$3' 8\frac{1}{2}''$	$3' 10''$
E/C	$5' 6\frac{1}{2}''$	$5' 7\frac{9}{16}''$	3' 1' 8" UNITS and 2 wood mullions	$5' 5\frac{9}{16}''$	$5' 7\frac{9}{16}''$
E/D	$6' 6''$	$6' 7\frac{1}{16}''$	4' 1' 8" UNITS and 3 wood mullions	$7' 2\frac{5}{8}''$	$7' 5\frac{1}{8}''$

Figures in red give sizes where $4'' \times 3''$ surround is used.

STANDARD METAL WINDOWS WOOD SURROUNDS

COMPOSITE TYPES

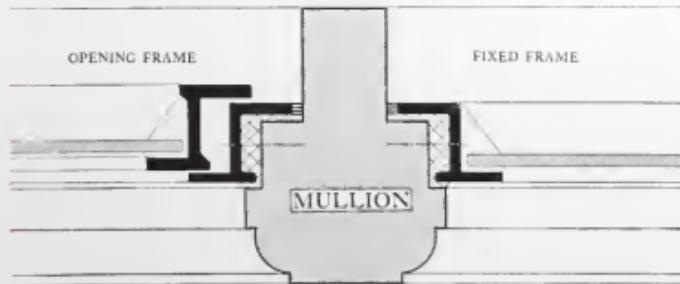
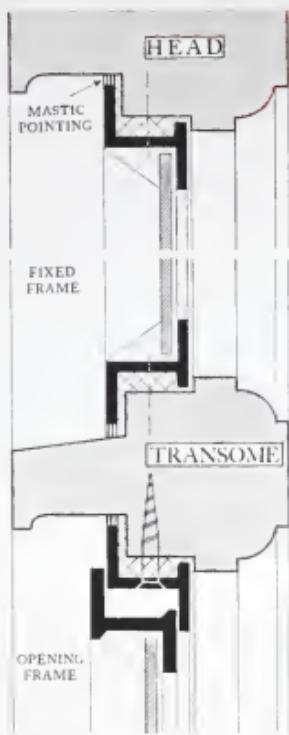
Wood Surrounds can be supplied to Composite Standard Metal Windows having steel Mullions and Transomes; or, as shown here, with wood Mullions and Transomes.

When ordering Composite Windows great care should be taken to make it perfectly clear whether wood or steel Transomes and Mullions are required.

Windows with wood Mullions and Transomes cannot be supplied without the Wood Surround.

It is impossible to give the overall sizes of every possible combination of types. Information regarding individual requirements will be forwarded on application.

OUTSIDE

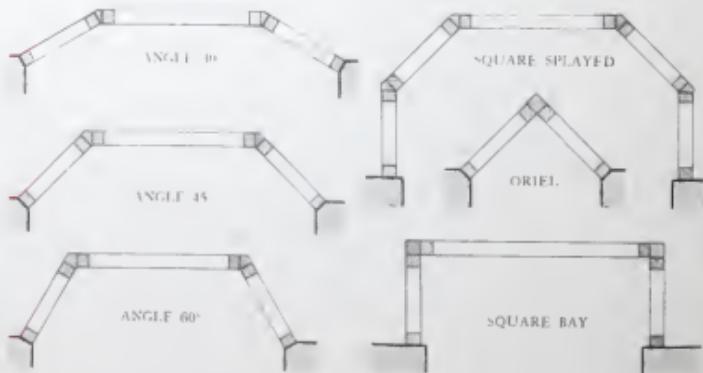


DETAILS APPROXIMATELY HALF FULL SIZE

STANDARD METAL WINDOWS BAYS IN WOOD SURROUNDS



Bay Windows can be supplied in Wood Surrounds, wood corner posts being stocked to make bays of 30° , 45° , 60° , and 90° angles. Any possibility of defects through shrinkage is avoided by the corner-posts being rebated. These are delivered attached to the middle portion of the window, and after erection it is only necessary for the builder to replace the wood screws and put a small cover-strip on the inside to finish off.



STANDARD METAL WINDOWS

BAYS IN WOOD SURROUNDS

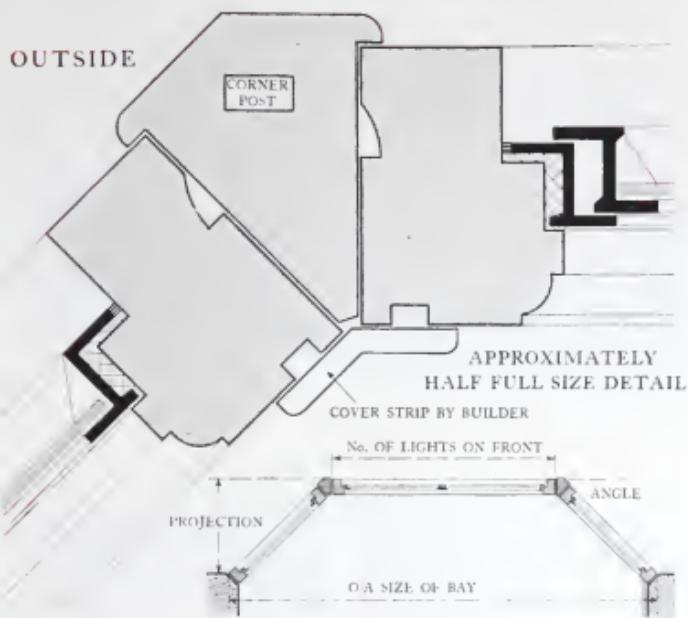


TABLE OF SIZES

OVER-ALL WIDTHS, ANGLES AND APPROXIMATE PROJECTIONS
OF BAY WINDOWS IN WOOD SURROUNDS

NO. OF LIGHTS ON FRONT	ONE LIGHT	TWO LIGHTS	THREE LIGHTS	FOUR LIGHTS	FIVE LIGHTS	TYPE OR ANGLE OF BAY	PRO- JEC- TION
OVER-ALL WIDTH	5' 8 1/16"	7' 3 5/16"	8' 10 9/16"	10' 6 9/16"	12' 2 9/16"	30°	1' 0 9/16"
	5' 11 1/16"	7' 6 5/16"	9' 1 9/16"	10' 9 9/16"	12' 5 9/16"		1' 0 13/16"
OF BAY	5' 2 1/16"	6' 9 5/16"	8' 4 9/16"	10' 0 9/16"	11' 8 9/16"	45	1' 5 3/4"
	5' 4 13/16"	7' 0 1/16"	8' 7 9/16"	10' 3 9/16"	11' 11 9/16"		1' 6 1/2"
WINDOW	4' 5 1/8"	6' 0 3/8"	7' 7 5/8"	9' 3 5/8"	10' 11 5/8"	60°	1' 10 1/8"
	4' 7 7/8"	6' 3 1/8"	7' 10 3/8"	9' 6 3/8"	11' 2 3/8"		1' 11 3/8"
WITH SINGLE-LIGHT	2' 6 3/16"	4' 1 7/16"	5' 8 11/16"	7' 4 11/16"	9' 0 11/16"	90°	2' 2 7/8"
	2' 8 3/16"	4' 3 7/16"	5' 10 11/16"	7' 6 11/16"	9' 2 11/16"	SQUARE	2' 4 3/8"
RETURNS	5' 4 1/2"	6' 1 1/8"	8' 6 5/8"	10' 2 5/8"	11' 10 5/8"	SQUARE	3' 7 31/32"
	5' 7 3/16"	7' 2 7/16"	8' 9 11/16"	10' 5 11/16"	12' 1 11/16"	SPLAYED	3' 9 7/8"

Figures in red give sizes where 4" x 3" surround is used.

STANDARD METAL WINDOWS BAYS IN WOOD SURROUNDS



Circular Bay effect obtained by the use of special 20° corner-posts.



Square Bay



Splayed Bay



Square-splayed Bays

STANDARD METAL WINDOWS

BAYS IN WOOD SURROUNDS



To meet a demand for circular-on-plan bays, we have now introduced the following range. The construction differs somewhat from that shown on page 53, and the sill (hardwood) is circular on the outside only, the inside and the head being flat work.

Radius in each case $5' 1\frac{5}{8}''$

*Projection of
Brickwork*

$3' 7\frac{1}{2}''$



Width

$9' 8\frac{5}{8}''$

$2' 9\frac{1}{2}''$



$9' 0\frac{5}{8}''$

$2' 0''$



$8' 1\frac{3}{16}''$

$1' 3\frac{1}{2}''$



$6' 10\frac{1}{2}''$

$0' 9''$



$5' 4\frac{7}{8}''$

The above are made in five heights (over-all the wood surround): D, $4' 4''$; H/C, $4' 10\frac{3}{4}''$; E/C, $5' 5\frac{1}{8}''$; H/D, $5' 10\frac{1}{4}''$; and E/D, $6' 5\frac{1}{16}''$

It is not proposed to use wood transomes
in connection with these windows.

STANDARD METAL WINDOWS
BAYS IN WOOD SURROUNDS



HOUSE AT STEYNING

Architect: Denman & Son

STANDARD METAL WINDOWS

DETAILS REQUIRED WHEN ORDERING

1. Type. Please quote both letter and number.
2. Quantity.
3. Whether fixing will be to wood frames or direct to masonry.
4. Whether the windows are to be complete in Crittall Wood Surrounds (and whether $3\frac{1}{2}'' \times 2\frac{1}{2}''$ or $4'' \times 3''$ surround, and oak or deal cills are required). Unless it is clearly stated on the order it will be assumed that wood surrounds are *not* required.
5. Hand. (The 'hand' of a casement is the side on which the hinges are fixed, looking from inside.)
6. Whether projecting hinges are wanted on Side-hung casements (no extra charge).
7. Whether curtain-rod brackets are wanted (no extra charge).
8. Address to which goods are to be sent, and name of nearest goods station.

NOTE

CRITTALL STANDARD METAL WINDOWS can also be supplied:

- (a) Without glazing-bars, prepared to receive standard lead glazing or large sheet glass. When ordering, use prefix 'N'; NC₂F, ND₁, etc.
- (b) With wider outside frames suitable for rough-cast walls, etc. Wider frame increases heights and widths of units by one inch. When ordering, use prefix 'W'; WC₂F, WND₁, etc.

STANDARD METAL WINDOWS

OVER-ALL SIZES

TYPE	ORDINARY FRAME	WIDE FRAME	IN WOOD SURROUNDS			
	Height Width	Height Width	Height	Width	Height	Width
AA 1					$3\frac{1}{2}'' \times 2\frac{1}{2}''$	$4'' \times 3''$
AA 5						
C 1	$3' 0\frac{1}{2}'' \times 1' 8''$	$3' 1\frac{1}{2}'' \times 1' 9''$	$3' 4\frac{1}{2}'' \times 1' 11\frac{9}{16}''$	$3' 5\frac{1}{16}'' \times 2' 0\frac{9}{16}''$		
C 5						
AA 2						
AA 7						
C 2	$3' 0\frac{1}{2}'' \times 3' 3\frac{1}{4}''$	$3' 1\frac{1}{2}'' \times 3' 4\frac{1}{4}''$	$3' 4\frac{1}{2}'' \times 3' 6\frac{9}{16}''$	$3' 5\frac{1}{16}'' \times 3' 7\frac{13}{16}''$		
C 7		(C 8 not made Wide Frame)				
C 8						
AA 3						
AA 4						
C 3	$3' 0\frac{1}{2}'' \times 4' 10\frac{1}{2}''$	$3' 1\frac{1}{2}'' \times 4' 11\frac{1}{2}''$	$3' 4\frac{1}{2}'' \times 5' 2\frac{1}{16}''$	$3' 5\frac{1}{16}'' \times 5' 3\frac{1}{16}''$		
C 4		(C 9 not made Wide Frame)				
C 9						
AA 6						
AAS 6	$3' 0\frac{1}{2}'' \times 11''$	$3' 1\frac{1}{2}'' \times 1' 0''$	$3' 4\frac{1}{2}'' \times 1' 2\frac{9}{16}''$	$3' 5\frac{1}{16}'' \times 1' 3\frac{9}{16}''$		
C 6		(C 6 only)				
CS 6						
BB 1						
BB 5	$4' 0'' \times 1' 8''$	$4' 1'' \times 1' 9''$	$4' 4'' \times 1' 11\frac{9}{16}''$	$4' 4\frac{9}{16}'' \times 2' 0\frac{9}{16}''$		
D 1						
D 5						
BB 2						
BB 7						
D 2	$4' 0'' \times 3' 3\frac{1}{4}''$	$4' 1'' \times 3' 4\frac{1}{4}''$	$4' 4'' \times 3' 6\frac{13}{16}''$	$4' 4\frac{9}{16}'' \times 3' 7\frac{13}{16}''$		
D 7		(D 8 not made Wide Frame)				
D 8						
BB 3						
BB 4						
D 3	$4' 0'' \times 4' 10\frac{1}{2}''$	$4' 1'' \times 4' 11\frac{1}{2}''$	$4' 4'' \times 5' 2\frac{1}{16}''$	$4' 4\frac{9}{16}'' \times 5' 3\frac{1}{16}''$		
D 4		(D 9 not made Wide Frame)				
D 9						
BB 6						
BBS 6	$4' 0'' \times 11''$	$4' 1'' \times 1' 0''$	$4' 4'' \times 1' 2\frac{9}{16}''$	$4' 4\frac{9}{16}'' \times 1' 3\frac{9}{16}''$		
D 6		(D 6 only)				
DS 6						
E 1						
ES 1	$2' 0\frac{1}{2}'' \times 1' 8''$	$2' 1\frac{1}{2}'' \times 1' 9''$	$2' 4\frac{13}{16}'' \times 1' 11\frac{9}{16}''$	$2' 5\frac{1}{16}'' \times 2' 0\frac{9}{16}''$		
E 5						
E 2						
ES 2						
E 7	$2' 0\frac{1}{2}'' \times 3' 3\frac{1}{4}''$	$2' 1\frac{1}{2}'' \times 3' 4\frac{1}{4}''$	$2' 4\frac{13}{16}'' \times 3' 6\frac{13}{16}''$	$2' 5\frac{1}{16}'' \times 3' 7\frac{13}{16}''$		
ES 7		(E 8 not made Wide Frame)				
E 8						
E 3						
ES 3						
E 4	$2' 0\frac{1}{2}'' \times 4' 10\frac{1}{2}''$	$2' 1\frac{1}{2}'' \times 4' 11\frac{1}{2}''$	$2' 4\frac{13}{16}'' \times 5' 2\frac{1}{16}''$	$2' 5\frac{1}{16}'' \times 5' 3\frac{1}{16}''$		
ES 4		(E 9 not made Wide Frame)				
E 9						
E 6	$2' 0\frac{1}{2}'' \times 11''$	$2' 1\frac{1}{2}'' \times 1' 0''$	$2' 4\frac{13}{16}'' \times 1' 2\frac{9}{16}''$	$2' 5\frac{1}{16}'' \times 1' 3\frac{9}{16}''$		
ES 6		(E 6 only)				
G 1 G 5	$11\frac{1}{4}'' \times 1' 8''$	$1' 0\frac{1}{4}'' \times 1' 9''$	$1' 3\frac{1}{4}'' \times 1' 11\frac{9}{16}''$	$1' 3\frac{1}{16}'' \times 2' 0\frac{9}{16}''$		
G 2 G 8	$11\frac{1}{4}'' \times 3' 3\frac{1}{4}''$	$1' 0\frac{1}{4}'' \times 3' 4\frac{1}{4}''$	$1' 3\frac{1}{4}'' \times 3' 6\frac{13}{16}''$	$1' 3\frac{1}{16}'' \times 3' 7\frac{13}{16}''$		
G 3 G 9	$11\frac{1}{4}'' \times 4' 10\frac{1}{2}''$	$1' 0\frac{1}{4}'' \times 4' 11\frac{1}{2}''$	$1' 3\frac{1}{4}'' \times 5' 2\frac{1}{16}''$	$1' 3\frac{1}{16}'' \times 5' 3\frac{1}{16}''$		

STANDARD METAL WINDOWS

OVER-ALL SIZES

COMPOSITES

TYPES	ORDINARY FRAME		WIDE FRAME		IN WOOD SURROUNDS			
	Height	Width	Height	Width	3 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	4" x 3"		
<i>E Types</i>								
C								
1 Light Wide (1' 8" Type)	5' 1 $\frac{1}{2}$ " x 1' 8"		5' 3 $\frac{1}{2}$ " x 1' 9"		5' 5 $\frac{3}{16}$ " x 1' 11 $\frac{9}{16}$ "	5' 6 $\frac{1}{2}$ " x 2' 0 $\frac{3}{16}$ "		
1 Light Wide (11" Type)	5' 1 $\frac{1}{2}$ " x 11"		5' 3 $\frac{1}{2}$ " x 1' 0"		5' 5 $\frac{3}{16}$ " x 1' 2 $\frac{5}{16}$ "	5' 6 $\frac{1}{2}$ " x 1' 3 $\frac{9}{16}$ "		
2 Lights Wide	5' 1 $\frac{1}{2}$ " x 3' 3 $\frac{1}{2}$ "		5' 3 $\frac{1}{2}$ " x 3' 4 $\frac{1}{2}$ "		5' 5 $\frac{3}{16}$ " x 3' 6 $\frac{3}{16}$ "	5' 6 $\frac{1}{2}$ " x 3' 7 $\frac{1}{2}$ "		
3 " "	5' 1 $\frac{1}{2}$ " x 4' 10 $\frac{1}{2}$ "		5' 3 $\frac{1}{2}$ " x 4' 11 $\frac{1}{2}$ "		5' 5 $\frac{3}{16}$ " x 5' 2 $\frac{5}{16}$ "	5' 6 $\frac{1}{2}$ " x 5' 3 $\frac{1}{16}$ "		
<i>E Types</i>								
D								
1 Light Wide (1' 8" Type)	6' 1" x 1' 8"		6' 3" x 1' 9"		6' 5 $\frac{3}{16}$ " x 1' 11 $\frac{9}{16}$ "	6' 5 $\frac{1}{2}$ " x 2' 0 $\frac{3}{16}$ "		
1 Light Wide (11" Type)	6' 1" x 11"		6' 3" x 1' 0"		6' 5 $\frac{3}{16}$ " x 1' 2 $\frac{5}{16}$ "	6' 5 $\frac{1}{2}$ " x 1' 3 $\frac{9}{16}$ "		
2 Lights Wide	6' 1" x 3' 3 $\frac{1}{2}$ "		6' 3" x 3' 4 $\frac{1}{2}$ "		6' 5 $\frac{3}{16}$ " x 3' 6 $\frac{3}{16}$ "	6' 5 $\frac{1}{2}$ " x 3' 7 $\frac{1}{2}$ "		
3 " "	6' 1" x 4' 10 $\frac{1}{2}$ "		6' 3" x 4' 11 $\frac{1}{2}$ "		6' 5 $\frac{3}{16}$ " x 5' 2 $\frac{5}{16}$ "	6' 5 $\frac{1}{2}$ " x 5' 3 $\frac{1}{16}$ "		
<i>G Types</i>								
E								
1 Light Wide (1' 8" Type)	3' 0 $\frac{1}{2}$ " x 1' 8"		3' 2 $\frac{1}{2}$ " x 1' 9"		3' 4 $\frac{3}{16}$ " x 1' 11 $\frac{9}{16}$ "	3' 4 $\frac{1}{2}$ " x 2' 0 $\frac{3}{16}$ "		
2 Lights Wide	3' 0 $\frac{1}{2}$ " x 3' 3 $\frac{1}{2}$ "		3' 2 $\frac{1}{2}$ " x 3' 4 $\frac{1}{2}$ "		3' 4 $\frac{3}{16}$ " x 3' 6 $\frac{3}{16}$ "	3' 4 $\frac{1}{2}$ " x 3' 7 $\frac{1}{2}$ "		
3 " "	3' 0 $\frac{1}{2}$ " x 4' 10 $\frac{1}{2}$ "		3' 2 $\frac{1}{2}$ " x 4' 11 $\frac{1}{2}$ "		3' 4 $\frac{3}{16}$ " x 5' 2 $\frac{5}{16}$ "	3' 4 $\frac{1}{2}$ " x 5' 3 $\frac{1}{16}$ "		
<i>G Types</i>								
C								
1 Light Wide (1' 8" Type)	3' 11 $\frac{15}{16}$ " x 1' 8"		4' 1 $\frac{1}{16}$ " x 1' 9"		4' 4" x 1' 11 $\frac{9}{16}$ "	4' 4 $\frac{1}{2}$ " x 2' 0 $\frac{3}{16}$ "		
2 Lights Wide	3' 11 $\frac{15}{16}$ " x 3' 3 $\frac{1}{2}$ "		4' 1 $\frac{1}{16}$ " x 3' 4 $\frac{1}{2}$ "		4' 4" x 3' 6 $\frac{3}{16}$ "	4' 4 $\frac{1}{2}$ " x 3' 7 $\frac{1}{2}$ "		
3 " "	3' 11 $\frac{15}{16}$ " x 4' 10 $\frac{1}{2}$ "		4' 1 $\frac{1}{16}$ " x 4' 11 $\frac{1}{2}$ "		4' 4" x 5' 2 $\frac{5}{16}$ "	4' 4 $\frac{1}{2}$ " x 5' 3 $\frac{1}{16}$ "		
<i>G Types</i>								
D								
1 Light Wide (1' 8" Type)	4' 11 $\frac{7}{16}$ " x 1' 8"		5' 1 $\frac{7}{16}$ " x 1' 9"		5' 3 $\frac{1}{2}$ " x 1' 11 $\frac{9}{16}$ "	5' 4 $\frac{3}{16}$ " x 2' 0 $\frac{3}{16}$ "		
2 Lights Wide	4' 11 $\frac{7}{16}$ " x 3' 3 $\frac{1}{2}$ "		5' 1 $\frac{7}{16}$ " x 3' 4 $\frac{1}{2}$ "		5' 3 $\frac{1}{2}$ " x 3' 6 $\frac{3}{16}$ "	5' 4 $\frac{1}{2}$ " x 3' 7 $\frac{1}{2}$ "		
3 " "	4' 11 $\frac{7}{16}$ " x 4' 10 $\frac{1}{2}$ "		5' 1 $\frac{7}{16}$ " x 4' 11 $\frac{1}{2}$ "		5' 3 $\frac{1}{2}$ " x 5' 2 $\frac{5}{16}$ "	5' 4 $\frac{1}{2}$ " x 5' 3 $\frac{1}{16}$ "		

STANDARD LEAD GLAZING



By confining ourselves to a range of sizes for use with Crittall Standard Metal Windows we are able to produce lead glazing at a very low figure.

Crittall Standard Lead Glazing is of the highest quality, and we are prepared to enter into any reasonable guarantee of its efficiency.

Panels are kept in stock to fit every 'N' (no glazing-bar) type of Standard Metal Window. To ensure that the cement in which the glass is bedded is properly set, no panel is despatched which has not been in stock at least three weeks.

Diamond panes, special sizes, designs, and qualities of glass can be supplied, but any deviation from the Standard Specification increases the cost, and time must be allowed for making up specially.

STANDARD LEAD GLAZING

SPECIFICATION

Crittall Standard Lead Glazing of 21-oz. sheet glass in squares approximately 8" × 6"; $\frac{1}{2}$ " flat beaded cames, reinforced where necessary with steel cores. No saddle-bars are needed.

If obscured glass is required, standard panels can be supplied in large or small Flemish, Arctic, or Cathedral glass.

When ordering it is necessary only to mention the type numbers of the windows for which Standard Lead Glazing is required; but in order to avoid confusion on the site every panel delivered bears a label showing the type number of the window for which it is intended.

The panels are labelled as follows:

For side hung and top hung ventilators other than night ventilators ('F' Vents): GV, EV, CV, DV.

For fixed lights other than those below

'F' Vents: G, E, C, D.

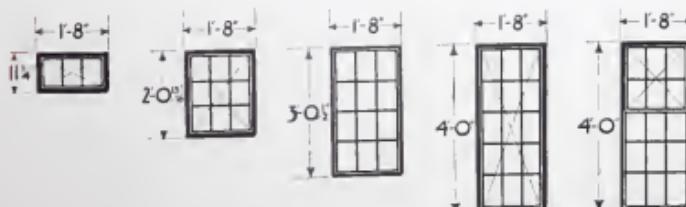
For night ventilators, 'F' Vents: EFV, CFV, DFV.

For fixed lights below 'F' Vents: EF, CF, DF.

Included in the range of Standard Lead Glazing are four panels for fixing direct to wood frames where mullioned openings occur and ventilators are not wanted:

Panel GX	Size	11" × 1' 8"
,, EX	,,	2' 0" × 1' 8"
,, CX	,,	3' 0" × 1' 8"
,, DX	,,	4' 0" × 1' 8"

Examples of Standard Metal Windows fitted with Standard Lead Glazing showing division of panes:



STANDARD FRENCH DOORS



GENERAL VIEW TYPE DA DOOR

$7' 0'' \times 3' 9''$ and $7' 0'' \times 3' 3\frac{1}{4}''$

The Glazing Bars line with the Crittall Standard Metal Window

As a complement to the range of Standard Windows illustrated in this Catalogue we have Standardized three types of folding French doors and two types of single side-hung doors of similar design.

These, with a range of standard fanlights for use above them, are shown on page 64.

Crittall Standard French Doors can also be supplied complete in Wood Surrounds (*see* page 67).

STANDARD FRENCH DOORS



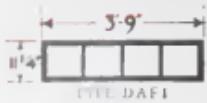
GENERAL VIEW TYPE DB DOOR

6' 6" x 3' 9"

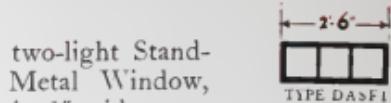
The doors are hung on gunmetal butts to open outwards, and are prepared for glazing with putty from the outside. They are fitted with gunmetal handles (to work from both sides) and gunmetal bolts on each leaf, lock and two keys, steel kicking panels, and eyes for cabin hooks. (Galvanized iron cabin hooks are supplied when ordered.) Necessary lugs or screws for fixing are included.

Standard French Doors can also be supplied to open inwards instead of outwards, and can be fitted with Espagniolette Bolts, to operate from inside only, instead of locks.

STANDARD FRENCH DOORS AND FIXED FANLIGHTS



Any two-light Standard Metal Window, i.e. $3' 3\frac{1}{4}''$ wide, may be used as a fanlight over type ADA Door.



The fixed fanlights shown here are prepared, like the French doors, to be glazed from the outside with putty.



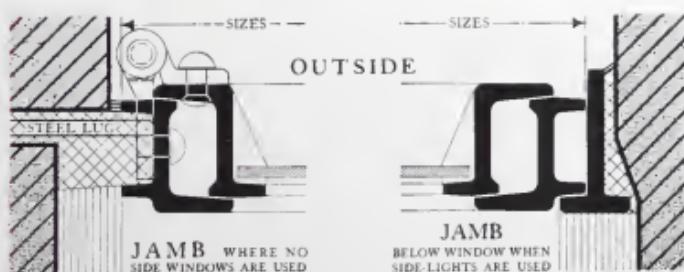
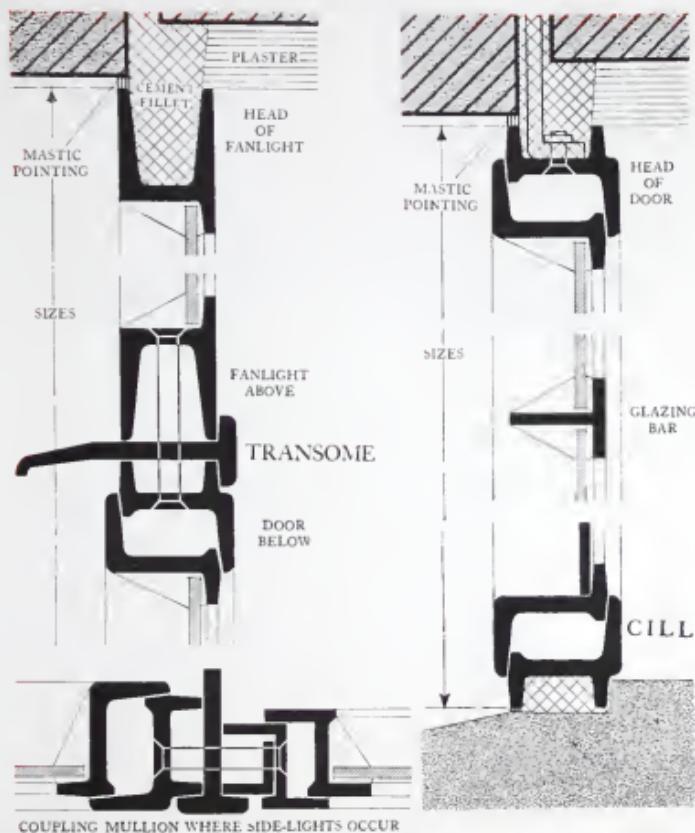
For over-all sizes of doors with fanlights, add quarter of an inch for each metal transom used.



STANDARD FRENCH DOORS

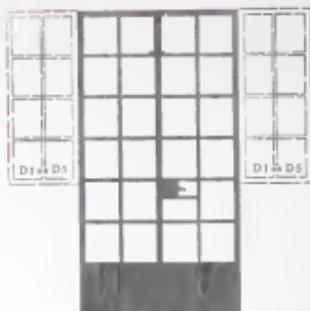
DETAILS

HALF FULL SIZE

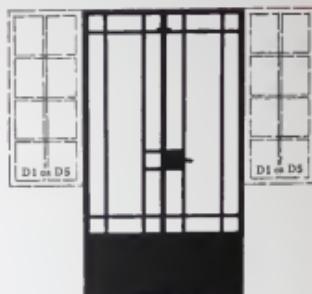


STANDARD FRENCH DOORS AND FANLIGHTS

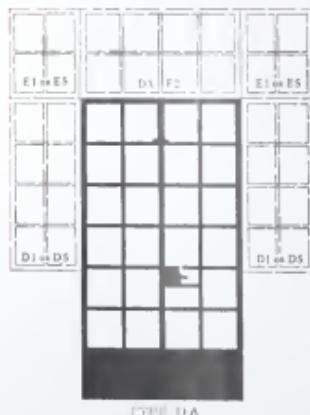
USED WITH STANDARD METAL WINDOWS



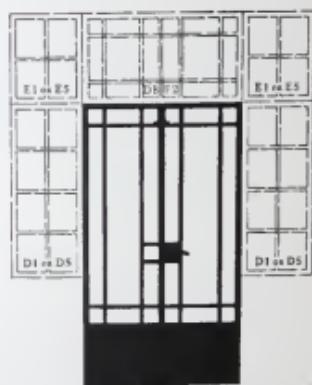
TYPE DA



TYPE DB



TYPE DA

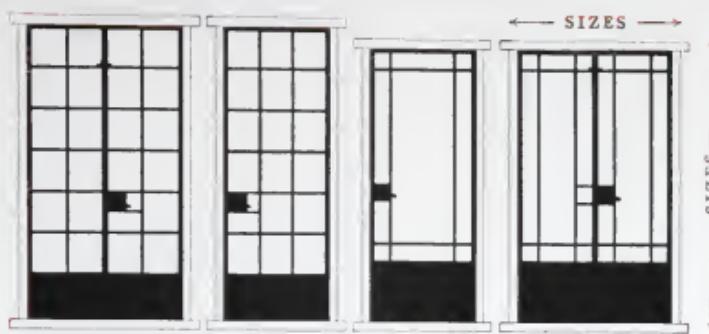


TYPE DB

These are only a few examples of the many ways of filling large openings by means of Standard Doors and Standard Metal Windows. Types DAS and DBS can also be used as above. To calculate combined heights and widths add $\frac{1}{4}$ " for each metal transome and mullion used.

STANDARD FRENCH DOORS

WOOD SURROUNDS



THESE DOORS CAN BE SUPPLIED WITH FANLIGHTS (SEE PAGE 64)
COUPLED WITH A METAL TRANSOME, OR ALTERNATIVELY WITH A
WOOD TRANSOME

OVER-ALL SIZES

TYPES		DA	ADA	DB	DBS	DAS
IN 3 1/2' x 2 1/2' WOOD SUR- ROUNDS	HT	7' 4 7/8"	7' 4 7/8"	6' 10 7/8"	6' 10 7/8"	7' 4 7/8"
	WTH	4' 1"	3' 7 1/4"	4' 1"	2' 10"	2' 10"
IN 4' x 3' WOOD SUR- ROUNDS	HT	7' 5"	7' 5"	6' 11"	6' 11"	7' 5"
	WTH	4' 2"	3' 8 1/2"	4' 2"	2' 11"	2' 11"
DOORS AND FANLIGHTS		DA + DAFL	DA + DAF2	DAS + DASF1	DAS + DASF2	DB + DBF1
IN 3 1/2' x 2 1/2' WOOD SUR- ROUNDS WITH STEEL TRANSOME	HT	8' 3 1/2" 9 5/8"	8' 3 1/2" 9' 5 1/2"	7' 9 1/8"	8' 11 1/2"	7' 9 1/8" 8' 11 1/2"
	WTH	4' 1" 4' 1"	2' 10" 2' 10"	4' 1" 4' 1"	4' 1" 2' 10"	2' 10" 2' 10"
IN 4' x 3' WOOD SUR- ROUNDS WITH STEEL TRANSOME	HT	8' 4 1/2" 9' 6 1/8" 8' 4 1/2"	9' 6 1/8" 7' 10 1/2"	9' 0 1/8" 7' 10 1/2"	9' 0 1/8" 7' 10 1/2"	
	WTH	4' 2" 4' 2"	2' 11" 2' 11"	4' 2" 4' 2"	2' 11" 2' 11"	
IN 3 1/2' x 2 1/2' WOOD SUR- ROUNDS WITH WOOD TRANSOME	HT	8' 4 7/8" 9' 6 1/8"	8' 4 7/8" 9' 6 1/8"	7' 10 7/8" 9' 0 1/8"	7' 10 7/8" 9' 0 1/8"	
	WTH	4' 1" 4' 1"	2' 10" 2' 10"	4' 1" 4' 1"	2' 10" 2' 10"	
IN 4' x 3' WOOD SUR- ROUNDS WITH WOOD TRANSOME	HT	8' 5 1/2" 9' 7 1/8" 8' 5 1/2"	9' 7 1/8" 7' 11 1/2"	9' 1 1/8" 7' 11 1/2"	9' 1 1/8" 7' 11 1/2"	
	WTH	4' 2" 4' 2"	2' 11" 2' 11"	4' 2" 4' 2"	2' 11" 2' 11"	

Figures in red give sizes where 4' - 3" surround is used.

STANDARD FRONT DOORS

THE door shown here has been specially designed for the main entrance door to a small house. The upper portion contains a panel of leaded glass, the lower portion being filled with oak panels and kicking plate.

The door is provided with a mortice lock, is hung on pivot hinges to a steel outer frame, and opens inwards. The necessary fixing lugs are provided.

The dimensions given are over-all the steel frame.



DETAILS HALF FULL SIZE

2'-10 1/2"

SOLID OAK PANELS

JAMB DETAIL



GLAZING BAR

INSIDE

STANDARD METAL DOORS

FOR LAVATORIES, OUT-BUILDINGS, WASHHOUSES
COAL STORES, Etc.

Or any building where constant and heavy usage makes wooden doors unsuitable



SPECIFICATION

THE Outer Frame is made of a joggled flat for fixing to the face of the wall by means of splayed adjustable lugs as shown on the detail given below. The lugs are sent loose with the necessary bolts for attachment, three being provided for each side. Alternatively, the frame may be fixed in the clear brickwork opening, and finished inside and outside with plaster. In this case straight lugs would be used instead of splayed lugs. Splayed lugs will be sent unless otherwise specified.

An air space of $2\frac{1}{8}$ " is provided between the top of the door and the frame to give permanent ventilation.

The Opening frame is made of 1" \times 1" angle with a stiffening bar across the middle, the panels being of 16 B.W.G. plate welded to the frame.

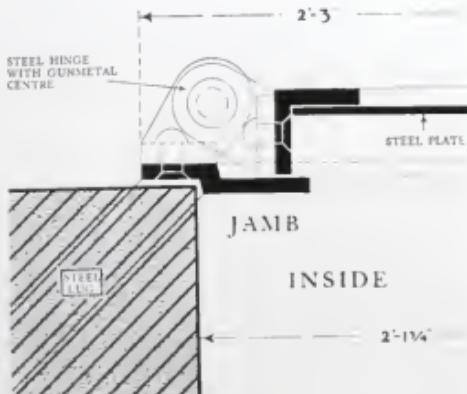
Hung on three pivot hinges with gunmetal centres and provided with padlock cleats and lever handle which can be locked from inside.

Over-all Size
6' 6" \times 2' 3"

A lavatory indicator can be fitted if desired.

Painted one coat of zinc oxide.

DETAILS HALF FULL SIZE



INSTALLATIONS



HOUSE AT BENENDEN

Architects E. H. Gandy



HOUSE AT BECKENHAM

Architects J. Overall & Co.

INSTALLATIONS



HOUSE AT BOURNEMOUTH

Architect: G. G. Osborne

INSTALLATIONS



HOUSE AT STOKE POGES

Architect: K. Dalgleish



HOUSE AT STOKE POGES

Architect: K. Dalgleish

INSTALLATIONS



HOUSE AT LOUGHTON

Architect: Edward Maufe



HOUSE AT HIGH WYCOMBE

Architect: R. G. Brocklehurst

INSTALLATIONS



HOUSE AT BUCKHURST HILL

Architects: Tooley & Foster



HOUSE NEAR BOURNEMOUTH

Architects: Jackson & Greenen

INSTALLATIONS



GADE HOUSE

Architect: Hubert Lidbetter



GADE HOUSE

Architect: Hubert Lidbetter

INSTALLATIONS



HOUSE AT BENENDEN

Architect: E. H. Gandy



HOUSE AT IPSWICH

Architect: Leslie Barefoot

INSTALLATIONS



HOUSE AT HEADINGTON

Architect: W. Austin Daft



HOUSE AT BOURNEMOUTH

Architects: Jackson & Greenen

INSTALLATIONS



HOUSE AT LIVERPOOL

Architect: J. W. Jones

INSTALLATIONS



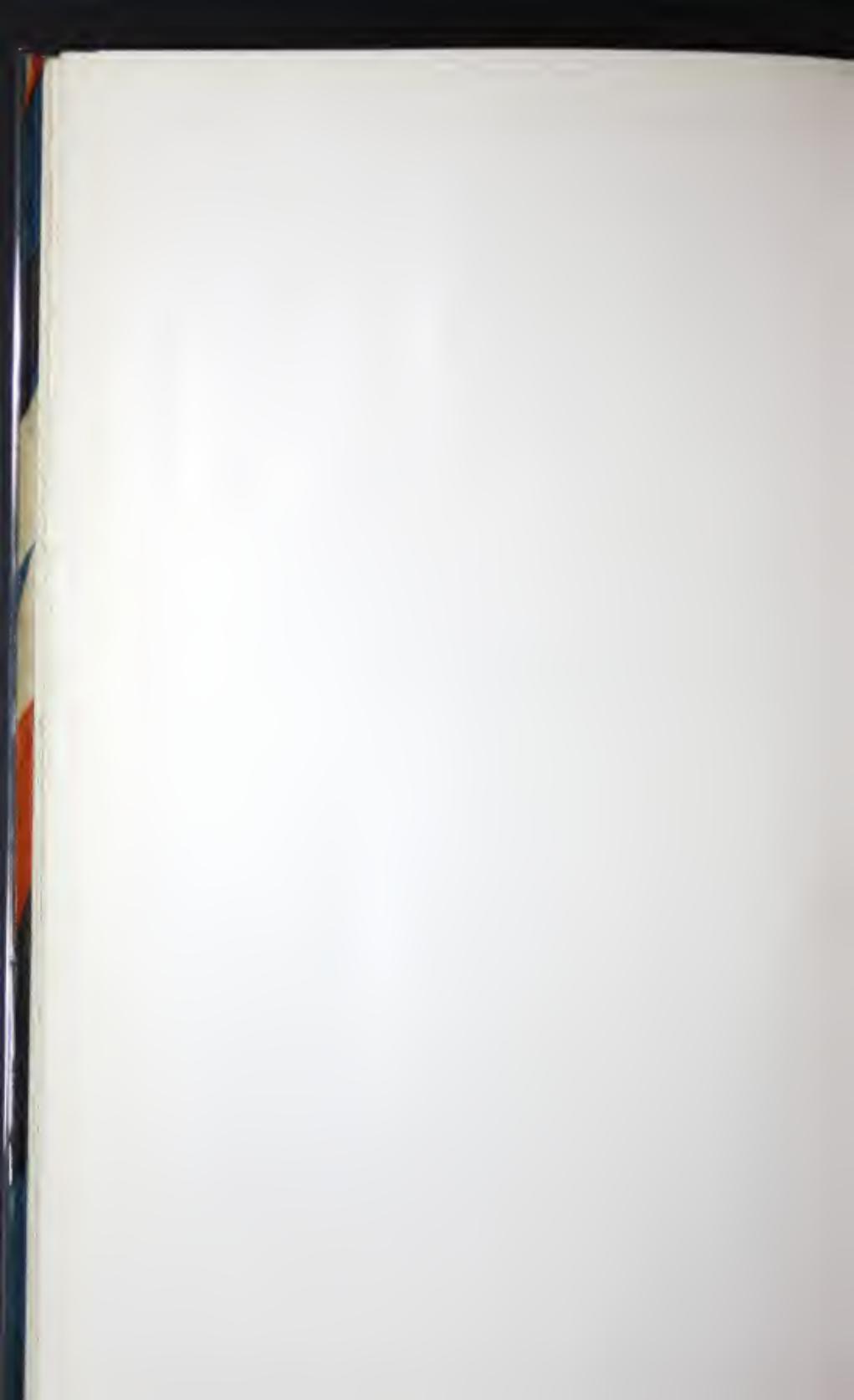
HOUSE AT BENENDEN

Architect: E. H. Gandy



HOUSE AT BOURNEMOUTH

Architect: A. J. Knight



STANDARD **FENESTRA** **SASHES**



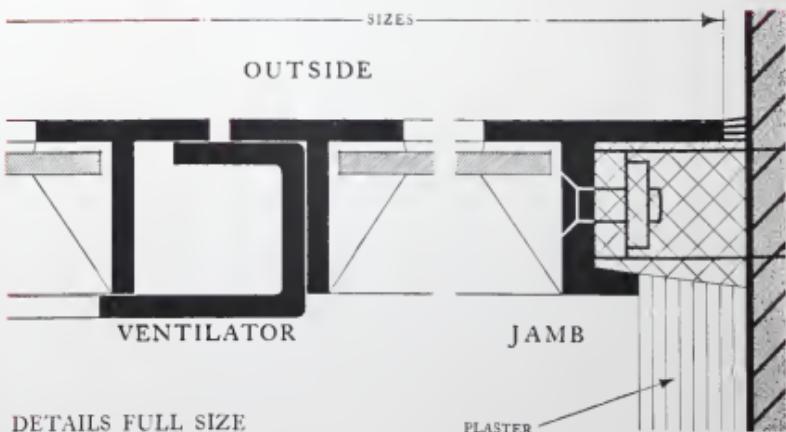
WALLS OF DAYLIGHT

DELIVERED FROM STOCK IN STANDARD SIZES FOR EVERY CLASS OF INDUSTRIAL BUILDING FROM FACTORY TO OUTHOUSE

STANDARD FENESTRA SASHES



Typical
Standard
Fenestra
Sash (Type
SS 44)



STANDARD FENESTRA SASHES

SPECIFICATION

It is standard practice for Fenestra Sashes, which are used for office or factory buildings often of a considerable height, to be glazed from inside, thus simplifying the replacement of broken glass.

The glass size for all fixed frames is $18'' \times 12''$, for middle panes in all ventilators except bottom-hung $16\frac{1}{2}'' \times 12''$, for corner panes in all ventilators except bottom-hung $16\frac{1}{2}'' \times 10\frac{1}{2}''$ wide.

The size for middle panes in bottom-hung ventilators is $15\frac{1}{2}'' \times 12''$, corner panes $15\frac{1}{2}'' \times 10\frac{1}{2}''$ (see page 90).

MULLIONS

Any number of sashes can be coupled together by means of Standard Tee Mullions and Transomes (see page 86).

FITTINGS

The Fittings are in all cases very substantial and suitable for the heavy duty they will be called upon to perform. Rivets are used in preference to screws for their attachment. The horizontal centre-hung windows are provided with a push-out pressed steel stay or, alternatively, a brass spring catch, where the former fitting would be inaccessible. A malleable iron handle and pressed steel stay are provided for the escape ventilators.

HINGES

The ventilators are horizontally centre-hung on wrought-steel pivots with gunmetal centres. These are easily adjustable, so that minor inaccuracies of erection or glazing can be easily corrected.

SPECIAL VENTILATORS

A special range of Side-hung Ventilators is provided in the Standard type for emergency fire exits. These are provided with projecting hinges to enable them to be cleaned from the inside. A further range of Standard Sashes are provided with Bottom-hung Ventilators for buildings where external projection is undesirable.

All types of ventilators have double contact (two-point) weathering, and as all the attachments of weathering to frames are concealed, there is no danger of corrosion interfering with their proper function.

FIXING

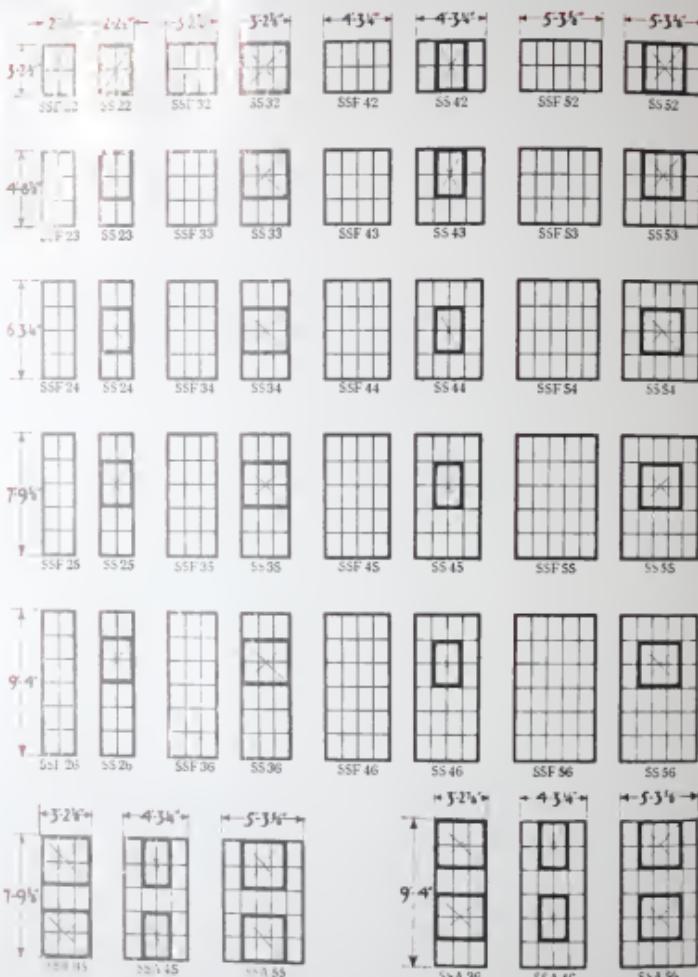
The best results are obtained by *Building-in* rather than by fixing sashes to finished openings, as, besides ensuring a sound joint with the surrounding masonry, the sash provides a guide and incentive to the bricklayer. All lugs and bolts are provided for the sashes and mullions.

FINISH

All sashes are painted a priming coat of zinc oxide before despatch, and full fixing instructions are attached to every consignment.

STANDARD FENESTRA SASHES

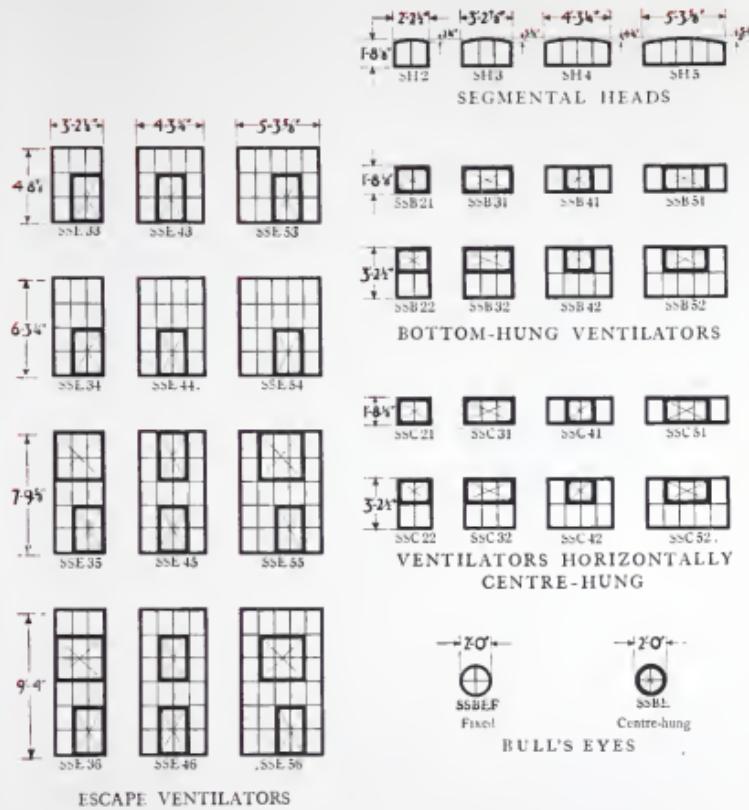
STOCK SIZES



VENTILATORS HORIZONTALLY CENTRE-HUNG

STANDARD FENESTRA SASHES

STOCK SIZES



The sizes given are over-all dimensions of the sashes, and allowance must be added for going into openings.

Diagonal lines indicate opening portions.

STANDARD FENESTRA SASHES

COUPLING DETAILS



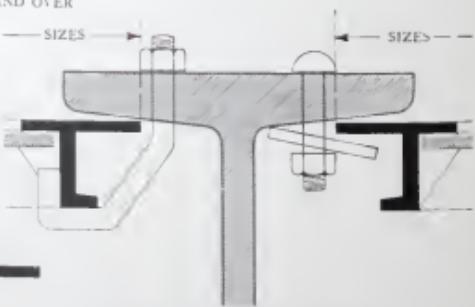
MULLION
FOR SASHES 13' 0" HIGH AND OVER

TWO or more units of Standard Fenestra Sashes may be combined in the same opening by joining them with our Standard Cruciform Mullion or Transom as shown.

All Mullions are provided to project $1\frac{5}{8}$ " into the cill.

They are cut off flush at the top, but a dowel can be fixed for building into the head where the construction of the lintol allows for this.

In openings where both mullions and transomes occur, the mullions run the full height of the opening.



ALTERNATIVE DETAILS FOR COUPLING TO EXISTING STEELWORK

TRANSOME

DETAILS HALF FULL SIZE

STANDARD FENESTRA SASHES



HINGES

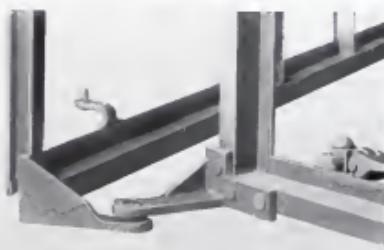
The hinges provided on horizontal centre-hung ventilators are *inside* the window, 2" above the centre, and securely riveted to the weathering. By this means the hinge is protected from rust and from the danger of screws working loose.

The hinges are made of wrought steel with gunmetal centres.

CLEANING HINGES

So that all types of windows may be easily cleaned from *inside* the building, side-hung ventilators are provided with projecting hinges. These provide a space of about $4\frac{1}{2}$ " between the sash frame and the ventilator when open, which is sufficient to allow the arm to pass freely.

These hinges are made of malleable iron with gunmetal centres.



CLEANING HINGE ON SIDE-HUNG VENTILATORS

STANDARD FENESTRA SASHES

FITTINGS



HANDLE



STAY



SPRING CATCH

SIDE-HUNG VENTILATORS

Side-hung Ventilators are provided with malleable iron handle of this pattern. It is of substantial design, securely rivetted to the frame. They are also provided with Push-out Steel Peg Stay and Tapered Peg. Both Stay and Peg are attached by rivets.



STAY FOR ESCAPE VENTILATORS

HORIZONTAL CENTRE-HUNG VENTILATORS

The Standard Fitting for this type of Ventilator is a Push-out Stay of the pattern illustrated. It is notched to allow the Ventilator to be set open at various positions, and secure fastening is ensured by placing it behind the clip attached to the fixed sash-bar immediately below.

HORIZONTAL CENTRE-HUNG VENTILATORS

In cases where the Push-out Stay cannot be easily reached by hand, Ventilators are provided with a brass spring catch for operation by cords.

STANDARD FENESTRA SASHES

FIXING INSTRUCTIONS

THESE instructions should be read in conjunction with details on pages 92 and 93.

Standard Fenestra Sashes are subject to careful inspection both during manufacture and before despatching. If properly handled during transportation, and erected according to the following instructions, they will operate in an entirely satisfactory manner when installed in the building.

HANDLING AND STACKING

Fenestra Sashes should ALWAYS BE STACKED ON EDGE and never piled one on top of the other. Do not lay the frames flat or drag them along, as rough handling will distort them. INSPECT THE SASHES CAREFULLY before placing in the opening, to be sure that they have not been twisted or bent. Any bars bent in handling can be easily straightened with a hammer. They should be covered up until ready for use.

FOR BRICK BUILDINGS

The best method when Standard Fenestra Sashes are used in brick buildings is to BUILD THEM IN as the work proceeds. This ensures a sound joint with the brickwork and prevents the possibility of a misfit. In such cases the sash should be stood in position and plumbed, levelled, and adjusted, and lugs bolted on. The ventilator, after being tried to see that it opens and closes properly, should be wired shut. The sash should then be braced and strutted securely. The supports should not be removed until the brickwork has reached lintol height.

In some cases, such as Concrete and Steel Frame Buildings, it is not possible to erect the sash until after the opening is formed.

Care must always be taken to protect the sash from misuse during erection. Sash bars are not intended to support scaffolding or ladders, and will be damaged if so used. Ventilators must be kept shut until ready for glazing.

CILLS

All Cills must be level. If the cill is not level, place a wedge under the corner of the frame. Sashes should be bedded in cement when placed upon cill prior to erection.

In cases where concrete cills are poured AFTER the sash has been built in, care must be taken to see that the temporary blocks on which it rests are under vertical bars running the full height of the sash.

Where cills have been formed to suit sash (see Detail 11) the stool must be cut away at the corner of each sash unit, to clear the ends of the vertical member.

JAMBS

In built openings, be sure that jambs are plumb. Do not force jambs to follow the lines of poor masonry, but be sure that it is free at both sides. In Detail 5, the interior brick opposite each lug should be removed, and lugs cemented after sash has been adjusted.

Be sure in all cases that lugs are free from masonry before cementing.

HEADS AND LINTOLS

Standard Fenestra Sashes are not designed to carry any load at the head. In placing frames under steel lintols, make allowance of from $\frac{1}{2}$ " to $\frac{3}{4}$ " for deflection, depending on the width of the opening.

STANDARD FENESTRA SASHES

GLAZING SIZES

NET GLASS SIZES:

A	A	A	A	A	A
A	B	C	B	A	
A	B	C	B	A	
A	A	A	A	A	A
A	A	B	B	A	
A	A	B	B	A	

SSC 56.

A	E	D	E	A	
A	A	A	A	A	A

SSB 52

'A' Fixed panes in all types, 18" × 12"

'B' Corner panes in all ventilators except bottom-hung,
16 $\frac{7}{8}$ " × 10 $\frac{7}{8}$ "

'C' Middle panes in all ventilators except bottom-hung,
16 $\frac{7}{8}$ " × 12"

'D' Middle panes in bottom-hung ventilators, 15 $\frac{3}{4}$ " × 12"

'E' Corner panes in bottom-hung ventilators, 15 $\frac{3}{4}$ " × 10 $\frac{7}{8}$ "

Allowance has been made for going in

The glass rebates on all Standard Fenestra Sashes are $\frac{3}{8}$ " deep, and the sizes given above allow $\frac{1}{8}$ " clearance all round. If the glass is too tight it will split.

GLAZING.—The glass is secured by spring glazing-clips. After the glass has been bedded in, the glazing-clips should be adjusted and the putty applied.

Never attempt to place glass against the metal rebate; it breaks and lets water through. Spread the rebate with a thin layer of putty, press the glass firmly against it, and trim off from the outside. Allow back putty three or four days to set before the ventilators are opened.

PUTTY.—Ordinary glazier's putty is not suitable for glazing metal windows, as the steel frames will not absorb the excessive quantity of oil.

It is necessary to see that only linseed oil is used (in sufficient quantity to allow the putty to be worked without being sticky). A little mastic or red lead mixed with the putty will add considerably to its strength and permanence.

We estimate that 12 ounces of putty are required for every pane.

PAINT.—Before applying finishing coats of paint, be careful to see that all rust and dirt contracted during installation are thoroughly removed.

Standard Fenestra Sashes are dipped in zinc oxide paint before despatch, but subsequent handling is liable to remove some of this, and some rust will follow. Finishing coats of paint should contain a good body of linseed oil. Care should be taken to see that the sash is quite clean before finishing coats are applied. Do not expect paint to stay upon rust or dirt.

STANDARD FENESTRA SASHES

FIXING DETAILS

THESE instructions should be read in conjunction with details on pages 92 and 93, and with general fixing instructions on page 89.

CONCRETE OPENINGS. 1 & 3.

Ordinary window openings in concrete can best be prepared with a small continuous groove as shown; this provides an internal rebate in which large sash lugs can be cemented, and does away with the necessity of cutting plug holes which, in the case of reinforced lintols, sometimes interfere with the reinforcement.

BRICK OR CONCRETE OPENINGS (FLUSH FINISH). 2 & 4.

Where ordinary brick openings are used, it is not usual to attempt to form any check or rebate at the head or jambs; quite sufficient stop is provided if the channel is well pointed with cement after fixing, or whilst they are being built in. An additional safeguard is provided if the external joint is raked out and pointed with mastic.

OPENINGS WITH INTERNAL FINISH ONLY. 5 & 12.

In cases where the internal jambs have to be provided with linings, either in plaster, wood, glazed brick, or other special materials, the frame should be placed in the clear opening and the internal brickwork set back sufficiently to accommodate the internal lining, whatever it may be. The joint between the sash and the masonry is formed with a cement fillet, well tamped into the channel of the sash. Detail No. 12 shows the sill suggested for use in such cases.

FLUSH WORK WITH EXTERNAL AND INTERNAL FINISH. 6.

Where it is necessary to render the external face of the brickwork, the openings must be kept large enough to provide a space between the sash and the masonry sufficiently wide to accommodate the external rendering. In this case, as in Detail No. 4, the actual joint should be made whilst the sash is being built in with cement. Internal linings, if any, can be finished against this cement fillet.

CAVITY WALLS. 7.

In cases where sashes are used in cavity wall buildings, they should be fitted in the middle of the outer course. Owing to the varying sizes of brickwork, it has not been found possible to arrange the lugs to correspond with the joints. The cavity itself can be closed by a piece of slate, and the lining covering this can be cut off in the reveal, if it is not required to finish the internal face of the building.

STEEL WORK. 8.

Steel Sashes can be easily fixed to steel work, and this detail shows the best application for such buildings, either in corrugated iron or brickwork. In fixing sashes to steel work, it is always advisable to avoid any attempt to make holes in the steel work to correspond with holes in the sash, and the detail shown avoids this. The steel stop shown riveted to the sill $\frac{1}{2}$ " from the outside face, forms an efficient stop, and flashing, in the case of corrugated iron, can be trimmed over this before the sash is applied. It must be stopped off $\frac{1}{2}$ " from each jamb and each side of mullion, to allow side bars of sash to run through.

Detail No. 9 shows an alternative method to the clip shown on the head and jamb for the steel work of Detail No. 8.

NOTE.—Hook bolts or clips will be supplied in place of lugs when specially asked for.

REBATED OPENINGS. 10.

It is occasionally necessary to fix sashes into framed openings, either in moulded brick, stone, or wood. In such cases, frames should be prepared with a $\frac{1}{2}$ " external rebate. The use of wood, however, as a framing, is not recommended.

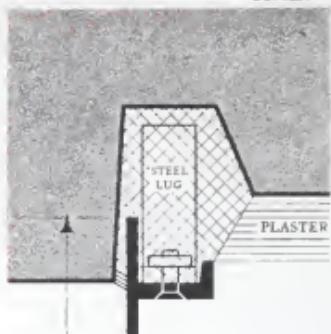
CILLS. 11 & 12.

Cills are usually formed after the sash has been built in, by pouring them in concrete. In such cases they can take any form dictated by special requirements. The large groove shown on the internal portion of Detail No. 11 will be found useful where excessive condensation is likely to be experienced. It should be made large enough to hold the maximum amount anticipated, so that it may evaporate during daytime, as attempts to drain this away to the outside are liable to give trouble.

STANDARD FENESTRA SASHES

FIXING DETAILS

HALF FULL SIZE



1. CONCRETE OPENINGS



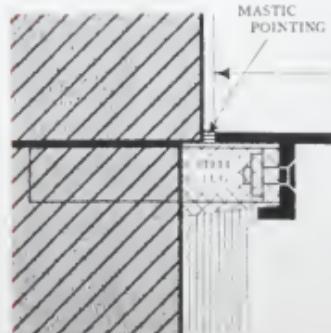
2. FLUSH BRICK or CONCRETE
WITH INTERNAL FINISH



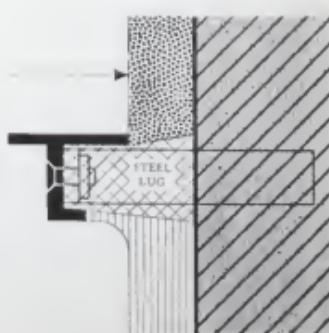
3. CONCRETE OPENINGS



4. BRICK or CONCRETE OPENINGS
(FLUSH FINISH)



5. OPENINGS WITH INTERNAL FINISH



6. FLUSH WORK WITH EXTERNAL
AND INTERNAL FINISH

The Notes on page 91 should be read in conjunction with these details.

STANDARD FENESTRA SASHES

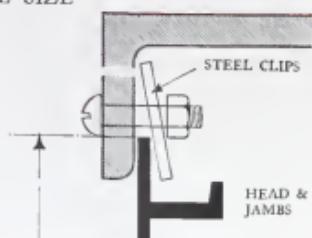
FIXING DETAILS

HALF FULL SIZE



CAVITY

PLASTER
STEEL LUG
CAVITY
SLATE TO CLOSE CAVITY



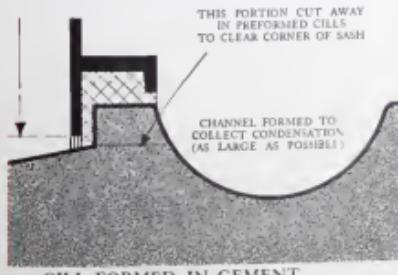
8. STEEL WORK



9. STEEL WORK WITH HOOK BOLTS



10. REBATED OPENINGS



11. CILL FORMED IN CEMENT



12. STONE OR CONCRETE

The Notes on page 91 should be read in conjunction with these details

STANDARD FENESTRA SASHES



MESSRS. COOSE & BLACKWELL'S (LTD.) NEW PREMISES
GRIMSCOTT STREET, S.E.1

Architect: Messrs. Joseph

A TYPICAL INSTALLATION
OF CRITTALL FENESTRA SASHES

STANDARD FENESTRA SASHES

DETAILS REQUIRED WITH ORDERS AND ENQUIRIES

To avoid unnecessary delay all orders for Standard Fenestra Sashes should be accompanied by the following information:

1. Quote Detail Number of Fixing Details as shown on pages 92 and 93, particularly noting where dimension points are shown.
If none of these details meet the case, a sketch should be sent showing preparation of work at head, sill, and jambs.
2. Number of each type required.
3. Quote Standard Type Numbers as given on pages 84 and 85.
4. In Horizontal Centre-Hung Ventilators, whether push-out stay or spring catch is to be fitted.
5. Whether mullions are to be cut to suit steel-work, and, if so, how much. Standard mullions are cut $1\frac{1}{2}$ in. long at sill and flush at head, and will be so furnished unless otherwise specified.
6. State the nature of building for which the sashes are required.
7. Name of person to whom goods are to be invoiced, and full forwarding directions, including name of nearest goods station.

STANDARD OFFICES AND PARTITIONS



Typical Installation of Steel Partitions in a modern office building
(Note the use of Standard Metal Windows, E1/C1)

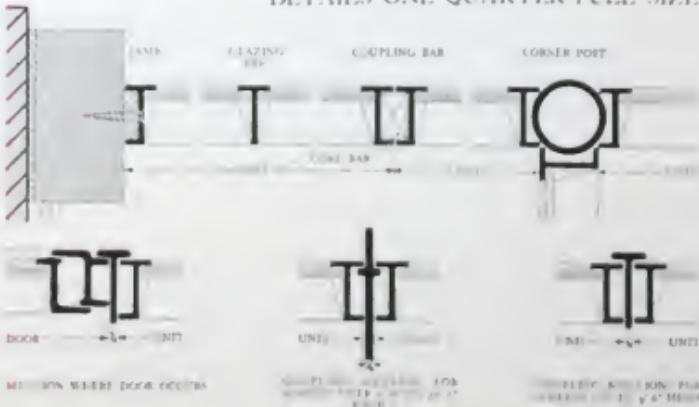
AS a means of subdividing offices, stores, and factories, glazed metal screens have the great advantage over wood in that they can be easily removed and re-erected without suffering any damage.

Further, they are considerably cheaper than wood partitions, offer less obstruction to light, are fireproof and occupy a minimum space.

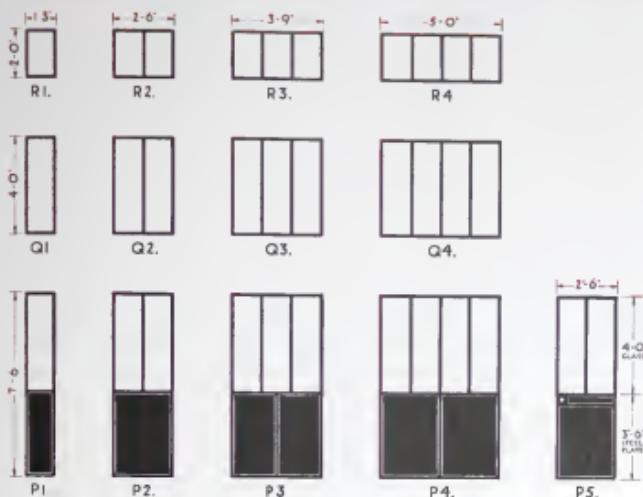
Ever since we first standardized these panels there has been a constantly increasing demand, and we have now revised and increased the range of sizes so as to make their application more elastic.

Where the units or some of the units do not exactly fill the required space, special filling-in pieces can be supplied.

DETAILS ONE QUARTER FULL SIZE



STANDARD OFFICES AND PARTITIONS



SPECIFICATION

PANELS, made of channel and tee sections as shown, with solid 16 B.W.G. plates welded or riveted into the lower part.

The upper panes prepared to receive glass from inside, and prepared for wood beads where specified.

Frames drilled for countersunk fixing screws which are sent with each consignment.

Vertical tubular mullions for corner pieces or angular connections can be supplied if desired.

DOORS, made of Medium Universal Section, hung on gunmetal hinges to open inwards. Provided with a substantial mortice lock and lever to operate from both sides.

FIXING. The most suitable method of fixing standard metal partitions is to screw them to wood plugs, or preferably, to a continuous wood curb fixed to the wall or ceiling.

G L A S S S I Z E S

Type	Quantity	Size	Type	Quantity	Size
R 1	One piece	22 $\frac{1}{16}$ " x 13 $\frac{1}{16}$ "	Q 4	Four pieces	46 $\frac{15}{16}$ " x 14 $\frac{1}{2}$ "
R 2	Two pieces	22 $\frac{1}{16}$ " x 14 $\frac{1}{16}$ "	P 1	One piece	47 $\frac{1}{16}$ " x 13 $\frac{1}{16}$ "
R 3	Three pieces	22 $\frac{1}{16}$ " x 14 $\frac{1}{2}$ "	P 2	Two pieces	47 $\frac{1}{16}$ " x 14 $\frac{1}{16}$ "
R 4	Four pieces	22 $\frac{1}{16}$ " x 14 $\frac{1}{2}$ "	P 3	Three pieces	47 $\frac{1}{16}$ " x 14 $\frac{1}{16}$ "
Q 1	One piece	46 $\frac{1}{16}$ " x 13 $\frac{1}{16}$ "	P 4	Four pieces	47 $\frac{1}{16}$ " x 14 $\frac{1}{16}$ "
Q 2	Two pieces	46 $\frac{1}{16}$ " x 14 $\frac{1}{16}$ "	P 5	Two pieces	46 $\frac{1}{16}$ " x 13 $\frac{1}{16}$ "
Q 3	Three pieces	46 $\frac{1}{16}$ " x 14 $\frac{1}{2}$ "			

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